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Missouri Botanical Garden

Bulletin

January/February 2003 Vol. LXXXXi, No. 1

This edition...

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Grow Your Own
Garden History

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Get heart-healthy

"Love in Bloom" contest

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And more...

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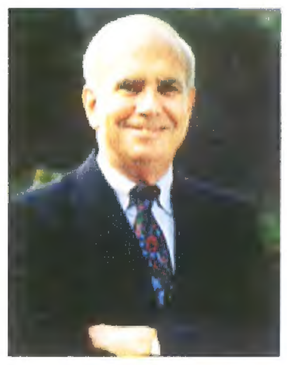

To discover and share knowledge
about plants and their environment,
in order to preserve and protect life.

-mission of the Missouri Botanical Garden

Since I was a child and first began to look at butterflies and plants near my home in San Francisco, nature has enthralled me. As time went by, my studies became more scientific, so that I was able to enjoy nature as a profession: a wonderful privilege!

The magic of nature has never been lost to me, and I hope our Garden and its programs and activities convey this magic to all our Members and all our other friends, those passing through for the first time and those who return time after time to the Garden, the Shaw Nature Reserve, and the Sophia M. Sachs Butterfly House to share the same experience that captured me.

Few such experiences equal the sight of orchids, nature preening herself to provide a visual aura that lasts in our senses and memory at least as long as the blossoms. Our orchid collection is splendidly, beautifully, carefully groomed by Babs Wagner, our orchidologist, and her colleagues, and extensively displayed once a year in the exhibition that opens in February and runs through most of March. Yes, this year's orchid show is an "Enchanted Forest." I hope you visit often and bring your family and friends.

For many of us, winter is a season that provides dazzling displays at the Garden and the Shaw Nature Reserve. A recent issue of *Show-Me Missouri*, the state's travel magazine, recommends the Japanese Garden as a winter destination, a time when it is a "garden... exposed—and that creates a beauty all its own." You can find the same in the English Woodland Garden and on the 14 miles of trails in the Shaw Nature Reserve, where a walk through the tall grass prairie at any time of year is breathtaking in its splendor.

We should treasure these moments. Garden scientists reported at the beginning of November that more of the world's plant species are threatened than previously thought. In a major paper published in *Science* magazine, MBG Assistant Curator Peter Jørgensen and a colleague from Duke University found that between 22 and 47 percent of the plant species worldwide are threatened, as opposed to the 13 percent previously reported. The reason for the discrepancy is that the prior estimate did not include a majority of the countries in tropical regions where most of the world's species grow, tropical regions where the Garden concentrates its botanical research. Dr. Jørgensen's work was done in Ecuador where he found that 83 percent of that country's more than 4,000 endemic plants—those found only in Ecuador—are threatened with extinction.

Thus, you can understand the importance of the Garden's work, and the interpretation and presentation the Garden's many scientists and programs provide. You, our Members, are our best ambassadors, reaching out to friends and associates, bringing them to the Garden, encouraging them to join as Members to share in all the benefits. You carry home our gratitude and your own fulfillment in helping us enrich and strengthen the complex web of life the Garden seeks to protect. The Garden depends on our Members, on each of you, for the many different ways you assist us, from the many hours of volunteering, to meeting our financial goals, to encouraging visitors. For your help, I am very grateful.

Peter H. Raven

Peter H. Raven

Director

Missouri Botanical Garden

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Faust Park, 15193 Olive Blvd.
Chesterfield, MO 63017
(636) 530-0076

Shaw Nature Reserve
Highway 100 and I-44
Gray Summit, MO 63039
(636) 451-3512

EarthWays Home
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(314) 577-0220

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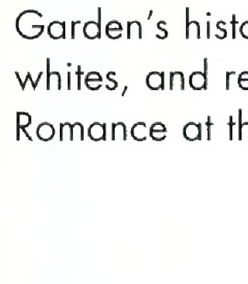


PHOTO BY MBG PUBLICATIONS

Editor's Note

Winter is one of the best reasons for working at the Garden—or volunteering or visiting, for that matter. When it's cold and gray and miserable for the *n*th day in a row, you can run over to the Climatron® for a break. Five seconds into that tropical rain forest, glasses steaming up, and you're racing to remove all the external layers of wool and dreaming of South America. Sit on a bench beneath a palm tree and write postcards to friends from your new vacation retreat. Sneak a *jabotica* if you dare, but don't tell them I told you to.

Then February hits. Fragrant olive trees give off their incredibly sweet floral scent as the Linnean House, the Garden's historic brick greenhouse, explodes in the pinks, whites, and reds of our prize-winning Camellia collection. Romance at the Garden, indeed. If you don't have a story to contribute to our "Love in Bloom" contest featured on page 8, then maybe you should surprise your sweetie with a trip to the Linnean this winter.

And then, this being St. Louis, there are the stray 50-degrees-and-sunny winter days that occur so regularly they shouldn't be as surprising as they are. Walking for fitness, both mental and physical, is wonderful in the brisk damp air when the trees are visible in all their naked beauty and the Garden's abundant wildlife waddles, scampers, and hops around in the leafy mulch. It's true: we do have the happiest squirrels this side of Central Park, and perhaps the fattest robins too. Come see for yourself this winter.

Elizabeth McNulty, editor
elizabeth.mcnulty@mobot.org

Rough Science Sundays

"I was thinking so hard my head hurt," says Ellen McCallie, St. Louis' own "Rough Scientist," about her experience on the nationally broadcast public television series in which she and other scientists tested their resourcefulness on the remote Caribbean island of Carriacou.

McCallie, a tropical ecologist and educator at the Missouri Botanical Garden, was the only American selected for the job. Billed as "the thinking person's reality show," the program presents science as fun and accessible, challenging the five experts to put their collective scientific knowledge to practical use.

Produced by the British Broadcasting Company (BBC) and Open University in association with WETA-TV of Washington, D.C., "Rough Science" debuted in fall 2002 on public television stations nationwide, including KETC-TV Channel 9 in St. Louis.

For four Sundays in January, the Garden will rebroadcast episodes as part of the special "Rough Science Sundays" program, hosted by star Ellen McCallie. Ellen will introduce each week's 30-minute show, answer questions afterward, and then direct a fun, challenging task designed to inspire young scientists age nine and older.

Participation in the activities is free with admission, but sessions are limited to 50 participants and advance reservations are required. Call (314) 577-0254 to reserve your spot. Children under age 16 must be accompanied by an adult.

"'Rough Science' is inspiring to the scientists as well as the viewers. Imagine how it feels to be given seemingly unsolvable challenges and, by the end of the program, have figured out workable solutions," says McCallie. "I was constantly elated by what we could accomplish with few tools and even less time. Plus, we show what doesn't work as well. This is real science!"

Rough Science Sundays Schedule

Jan. 5: "Mapping It Out." *The episode:* watch the scientists successfully prepare an accurate scale map of the island despite tropical downpours, using botanical paper and inks. *The activity:* participants will work with similar inks and dyes, write on leaves, and learn how plant material is used to make homemade paper.

Jan. 12: "Bugs and Barometers." *The episode:* the team battles the elements and bugs to build a biology lab, microscope and weather station in three days. *The activity:* learn how essential oils, such as lavender and rosemary, can be extracted and used beneficially to protect plants, repel insects, or attract other people.

Jan. 19: "Sun and Sea." *The episode:* the scientists are challenged to build an underwater light using natural power sources and human energy. *The activity:* participants will complete a circuit and create a working flashlight from common household materials.

Jan. 26: "The Science of Celebration." *The episode:* the team stages a concert and fireworks show. *The activity:* participants will create homemade musical instruments and play a tune together.

Rough Science Sundays
Sundays, Jan. 5, 12, 19, 26
1 and 3 p.m.
Shoenberg Auditorium
Reservations required; call (314) 577-0254.

Sponsored by the Missouri Botanical Garden, KETC Outreach & Education Department, the National Science Foundation, and DuPont

Sweet Works of Art

Whether you have big time home-baking ambitions, plans for a grand wedding reception, or just a big old sweet tooth, you should come down to sample the goodies at the Garden's annual cake-decorating event. Visitors will find a stunning collection of wedding and all-occasion cakes adorned with exquisite, handcrafted botanical decorations.

Throughout the weekend, enjoy an elaborate display by some of the most creative cake and confection designers in the area—including Karen Ann's Cakes, Karen Copper, Cakes by Ann Marie, and Gloria Hall. Master cake decorators demonstrate tips and techniques of the trade. Hands-on lessons provide the icing on the cake, guaranteeing your homemade masterpieces will compete with the pros. Sweet masterpiece, it's a piece of cake!

Sugared, Spiced, Everything Iced
Sat. & Sun., Feb. 22 & 23
9 a.m. to 5 p.m.
Ridgway Center

Raise a Joyful Voice

What better time of year than Black History Month to celebrate one of the most heartfelt expressions of African-American culture—gospel singing. Gospel traces its roots back to spirituals and work songs of the 19th century, evolving out of the black church experience, but the Gospel message of "good news in bad times" resonates across all cultures.

The 13th annual "Celebrate the Gospel" features performances by two of the region's most lauded choirs, the Berean District Choir on February 9, and the Antioch Baptist Church on February 16. This event is very well attended and seating is limited. Arrive early to obtain the best seats, first-come, first-served.

Celebrate the Gospel
Sun., Feb. 9 & 16
3 p.m.
Shoenberg Auditorium

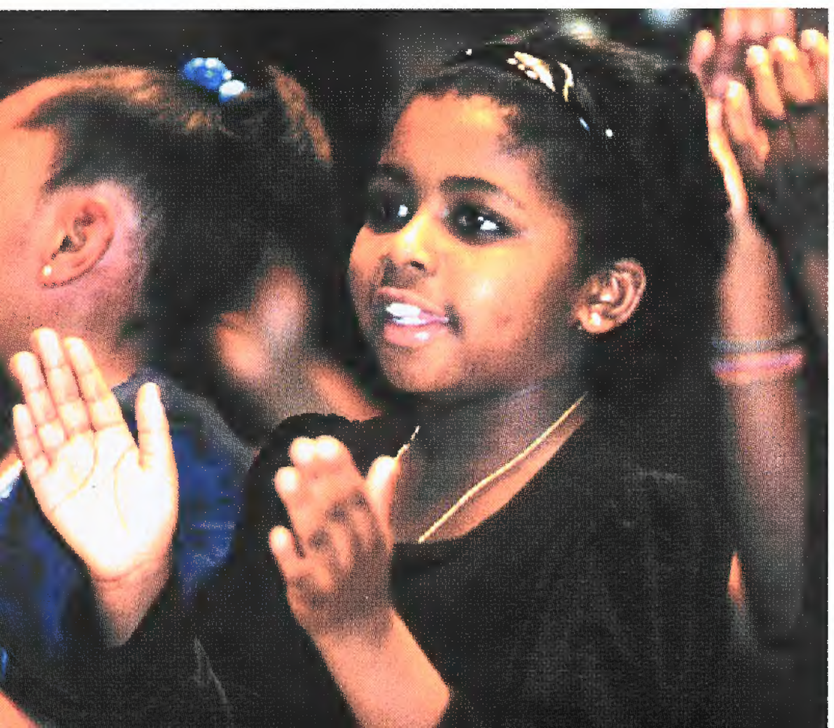


PHOTO BY TIM PARKER

PHOTO BY BRYAN RECKAMP

February is American Heart Month

February is the month for valentines, flowers, and paper hearts, but it's also a good time to reflect on the health of your real heart. Cardiovascular disease remains the number one killer in the U.S., and obesity and physical inactivity lead the risk factors. More than half of American adults are overweight and obese, about one in four are sedentary, and another third are not active enough to reach a healthy level of heart fitness. Even moderate-level physical activity, such as walking, can protect cardio-respiratory fitness and blood pressure. And what better way to inspire your exercise program than walking in the Garden?

The American Heart Association and the U.S. Congress have designated February American Heart Month, and to this end, the Garden offers a guided "Fitness Foray" map, free with admission. The Garden has almost two miles of walking paths, and the Fitness Foray charts out three easy loops in a variety of lengths, and provides assorted fitness and walking fun facts. The Garden opens early at 7 a.m. every Wednesday and Saturday to encourage fitness walking. A light breakfast is also available for purchase in the Garden Café, so grab a workout buddy and meet for coffee and exercise on the Fitness Foray.

Older Americans and Physical Activity:

According to the American Heart Association, people become less physically active as they get older. Nearly 40 percent of people over the age of 55 report no leisure-time physical activity. And yet, the older people become, the more they need regular exercise. It helps prevent bone loss (reducing the risk of fractures) and reduces the risk of dozens of diseases associated with aging. It also increases muscle strength and may improve balance and coordination, which can reduce the likelihood of a fall. Being physically active is a real key in maintaining quality of life and independence. So why not bundle up and bring your parents or grandparents to the Garden for a walk during American Heart Month?

Children's Need for Physical Activity:

According to the American Heart Association, children in the U.S. today are less fit than they were a generation ago. Many are showing early signs of cardiovascular risk factors such as physical inactivity, excess weight, higher blood cholesterol, and cigarette smoking. Children spend an average of 17 hours a week watching TV above and beyond the time they spend on video and computer games, and inactive children are more likely to become inactive adults. Healthy lifestyle training should start in childhood to promote improved cardiovascular health in adult life. So grab the kids and grandkids and start a new heart-healthy Valentine's Day tradition, with a Fitness Foray at the Garden.

The Enchanted Forest

Orchid Show 2003

On February 1, prepare to be enchanted! Tiny wizards, fairies, and elves will invade the Garden at the 2003 orchid show, the "Enchanted Forest." Discover dozens of magical denizens of the enchanted forest nestled among the exotic, colorful blooms and lush, green foliage. Children will be delighted by the enchanting creatures hidden among the orchids—some appear to care for the plants, while others fly by on tiny wings, and shy ones hide in trees and caves. Adults will marvel at the Garden's award-winning collection of rare and exotic orchids, visible in all their glory only once a year to the public.

A living museum... Orchids constitute the largest living collection at the Garden, with some specimens dating back over 100 years. The Garden has over 8,500 orchids, representing some 3,100 species, varieties, and hybrids, including many rare and unusual plants. The genera *Cattleya*, *Laelia*, *Epidendrum*, *Oncidium*, *Paphiopedilum*, and *Phalaenopsis* are emphasized because they can survive St. Louis summers, and their diverse color and form are valuable for displays and educational exhibits. A sample of the orchid collection can be viewed year-round in the atrium of the Beaumont Room in the Ridgway Center and in rotating Climatron® orchid displays. However, only in February and March during the annual orchid show are visitors able to view this living collection en masse.

Rediscover the enchantment... It pays to be a repeat visitor to the orchid show: the display changes slightly from week to week, as spent blooms are swapped out with fresh. "We start out with about 700 to 800 orchids in the show, and I switch out approximately anywhere from 50 to 100 spent orchids a week. I try to get as much diversity in the show as possible," says Blanche "Babs" Wagner, horticulturist and orchid grower. Wagner said she juggles temperatures in the orchid range starting in October in order to force early blooming or to delay blooms for the show.

The horticulture division's greenhouse and floral display staff and their dedicated volunteers plan and prepare for the show well in advance. "My volunteers are busy for months beforehand prepping the orchids for the show," said Wagner. "I wouldn't be able to do it without them."

Beginning on January 6, the Garden will post photographs of the orchid show installation in progress on the Garden website at www.mobot.org/hort. Click on "Activities and Events" for the sneak preview.

Throughout the show, visit the Garden Gate Shop for an outstanding selection of orchid plants and gardening accessories. Proceeds support the Missouri Botanical Garden.

ARTWORK BY BRYAN RECKAMP

The Orchid Numbers

Total orchids in pots:	8,635
Unique orchid taxa:	3,165
Unique orchid species (excludes hybrids):	1,527
Orchid genera:	320
Orchidaceae in the herbarium*: (representing 8,000 species)	65,000

*Figures supplied by the Plant Records Office for May 2002 except *Herbarium Curator.*

Orchid Show 2003:
"The Enchanted Forest"
Feb. 1 to Mar. 16
9 a.m. to 5 p.m.
Orthwein Floral Display Hall
Garden admission plus
$3 for adults ($2 for seniors)
Members and children under 12—free.

PHOTOS COURTESY MBG ARCHIVES

history

The Garden's Orchid Timeline

In **1876**, Mrs. Henry T. Blow presented Garden founder Henry Shaw with a sampling of orchids collected by her husband while he served as Minister to Brazil under President Grant. Shaw was especially fond of orchids, and at his death in 1889, the Garden's collection, though small, was one of the most complete in the country.

In **1903**, a terrible fire destroyed two-thirds of the collection of 550 orchids and left the remainder badly damaged. Within two years, the collection was reestablished, aided by a generous donation from the New York Botanical Garden.

In **1906**, orchidologist George H. Pring joined Garden staff with the expressly stated goal of building an orchid collection "even better than Kew." Head horticulturist for 57 years, Pring played a major role in developing the collection into one of the world's finest. So famed was the collection that during World War I, the Garden obtained a special permit to burn coal even though it was in short supply to heat the orchid greenhouses.

In **1918**, Kirkwood orchidologist D. S. Brown donated his orchids to the Garden, bringing the collection to 5,732 plants. Just two years later came the flowering of the first hybrid developed at the Garden. It would be named *Paphiopedilum* 'D.S. Brown.'

In **1923**, Pring spent six months collecting plants in Panama and Colombia and returned with 40 burro-loads—or some eight tons—of orchids. The Garden's first orchid show was held the following year, attracting 8,000 visitors.

In **1926**, the Garden established a tropical field station in Panama, greatly facilitating orchid collection. Meanwhile, back in St. Louis, the Garden's orchid collection, long suffering from air pollution, was moved to the newly acquired Shaw Arboretum (now the Nature Reserve) at Gray Summit, Missouri, 30 miles away. Hybridization and seedling work was begun the following year.

In **1954**, St. Louis was the site of the first World Orchid Congress, and by 1958, air quality conditions in the city had improved and the orchid collection was returned to St. Louis.

In **1979**, the Floral Display Hall burned down. The Garden has never rebuilt a permanent display structure.

In **2003**, the Garden boasts an award-winning orchid collection, numbering over 8,500 plants, and including many rare and ancient specimens.

Above (left to right): (1) Interior of the Orchid House in the 1890s. (2) The cool orchid house, a lean-to attached to east end of Linnaean House, seen in 1905. (3) Beginning in the early 1920s, the Garden presented an orchid bouquet to the Veiled Prophet's "Queen of Love and Beauty." After the ball, the bouquet was displayed for a day at the Garden. Photo from 1924. (4) MBG Orchid exhibit designed by Paul Kohl inside the newly built Arena at the 1935 Greater St. Louis Flower and Garden Show.

ARTWORK BY STIG DALSTRÖM

Artwork Sale
February 1–28, Available in the Garden Gate Shop

MBG Press presents a Members' exclusive

For the Garden's 2003 orchid show, throughout February, all of MBG Press's illustrated orchid books are offered to Members at a total discount of 40%. These exquisitely illustrated, oversized folios include Carlyle Luer's contemporary series *A Treasure of Masdevallia* plus the prized volumes of *Thesaurus Dracularum*. Both are illustrated by the well-known Swedish botanical artist Stig Dalström. Also available is the four-part series *Thesaurus Woolwardiae* featuring the Victorian orchid collections of the Scottish Marquis of Lothian. Its 60 spectacularly colored plates (11 3/4" x 16 1/2" on archival grade paper suitable for framing) were done by the famed 19th century orchid illustrator Frances Woolward. All Garden orchid books and folios may be found thriving at the Garden Gate Shop and online at www.mobot.org/mbgpress. This is the perfect gift for the orchid lover in your life or for anyone who admires fine botanical art.

Love in Bloom

Recently voted one of the best locations for a date by readers of the *Riverfront Times*, the Garden is widely considered one of the St. Louis area's premier romantic sites for dates, marriage proposals, wedding ceremonies, and other celebratory occasions. Walk through the Japanese Garden at sunset any day this month and you'll pass pair after pair, holding hands, snuggling against the winter chill. Wander into the Linnean House as the camellias come into bloom and you're sure to encounter couples canoodling on a secluded bench. Maybe you're one of them. Now, your true story of romance at the Garden could win you a prize during our "Love in Bloom" contest this January.

Does a certain spot within the Garden walls evoke a special memory? Was your first date a warm summer evening at a jazz concert on the lawn? Did you propose nervously on bended knee beneath a shady gazebo or pop the question in some unique or clever way? Were you a traditional June bride, exchanging wedding vows among the fragrant roses? Does a visit to the Garden inspire fondness for your beloved—or rekindle memories of an old flame?

PHOTO BY TIM PARKER

RIVERFRONT Times Best of St. Louis '02®

Critics Choice
Best Tourist Attraction
Missouri Botanical Garden

RFT picks the Garden...

2002 Best Tourist Attraction (critic's pick)

2002 Best Place for A First Date (tie, reader's pick)

Describe your true romantic encounter in narrative text, referring to the Missouri Botanical Garden or a specific location on the grounds at least once. Use creativity, wit, and sensitivity to tell your story in 300 words or less, double-spaced and typed. Attach a separate cover sheet to the top of the entry listing your name, complete mailing address, phone number, and e-mail (optional). Anonymous submissions will be disqualified.

Mail the entry to: "Love In Bloom" Contest, c/o Communications Division, Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166-0299. Entries will be accepted by mail only and must be postmarked from Jan. 2 to 31, 2003.

As part of the promotion, contest sponsor Schnuck Markets, Inc. will offer a complimentary admission pass for two to the Garden with any Valentine's Day bouquet purchased from Schnucks floral departments in the St. Louis metropolitan area.

The story chosen "most romantic" by a panel of celebrity judges will win a prize package including a weekend getaway at the Marriott Pavilion Hotel in downtown St. Louis; a dozen roses from Schnucks floral department; a gift basket from the Garden Gate Shop; and lunch for two in the Garden Café. The prize also includes a Garden Membership (or renewal), allowing the winner and a guest to visit the Garden free of charge for one year and enjoy special Members-only events and premiums.

No purchase necessary. Void where prohibited by law. Terms of the contest are governed by official rules. See official rules for details. A copy of the official rules may be obtained on the website, by calling (314) 577-0254, or by writing to the Garden's Communications Division at the above address.

It's Definitely for the Birds!

by Mary Ann Fink

The National Wildlife Federation has certified the Lang Family Bird Garden at the Kemper Center for Home Gardening a "Backyard Wildlife Habitat Site," recognizing the garden as part of a "worldwide network of mini-refuges where wildlife may find quality habitat."

The Bird Garden demonstrates the importance of environmental stewardship as well as offering an intimate opportunity to see and hear local "feathered residents" in a special setting. Birds are the most visible and familiar form of wildlife at the Garden, and visitors are encouraged to watch the birds from several viewing benches or to stroll around the interior walkway in close proximity.

February has been proclaimed National Wild Bird Feeding Month by the U.S. Congress. Backyard bird feeding is enjoyed by over 52 million North Americans, and as a hobby is second only in popularity to gardening. Missouri is no exception: a recent survey conducted by the Missouri Department of Conservation finds that one and a half million Missourians feed the birds.

The Lang Family Bird Garden is designed to showcase the many ways homeowners can attract and help wildlife within the boundaries of their own property. Backyard bird gardens are a win-win proposition: the birds benefit from the easy access to nutritive birdseed and fresh water, and humans benefit from the opportunity to enjoy the mystique of "birding" up close. Come into the Kemper Center today to learn how to create a wildlife refuge right in your own backyard.

Thanks to St. Louis-area Wild Birds Unlimited stores for sponsoring the Bird Garden's feeding station program through their generous donation of materials, bird feeders, baffles, and over $3,000 worth of regionally formulated custom seed blends.

PHOTO BY ELLEN FLESCH

Birding Classes

The Adult Education division of the Garden offers classes to members at a discount, with classes on birding offered every fall and spring. Go to http://www.mobot.org/gardeninghelp/ on the web to view current course offerings.

PHOTO BY ELIZABETH MCNULTY

Bird gardener and Garden horticulturist Mary Ann Fink launched a career in her backyard over a pot of petunias. This interest blossomed into a 20-year career as an expert on annuals and perennials. While working in the home gardening industry at cutting-edge wholesaler Bowood Farms, Mary Ann volunteered at the Garden for nearly 10 years before joining the staff in 2000. She is a member of the Perennial Plant Association and Gateway Professional Horticultural Association, a freelance writer, an occasional radio talk show guest on horticultural topics, and has taught a variety of classes at the Garden.

Create a Bird-Friendly Backyard

- Select plants to provide food for wildlife in different seasons.
- Re-create the layers of plant growth found in nature.
- Supply water; a dripping or running source is best.
- Provide boxes of various sizes for nesting.
- Don't use pesticides.

Above: Visitors enjoy seeing our feathered friends up close in the Lang Bird Garden at the Kemper Center. Above right: one of the Garden's many fat and happy quail.

Grow Your Own:

The No-Stress Guide for First-time Orchid Growers

Once the exclusive privilege of the rich, a status symbol for which huge sums of money were paid, orchids today are widely available, but continue to exert an allure every bit as strong as in eras past, as books like *Orchid Fever* and *The Orchid Thief* bear witness. Sure orchids aren't just for aristos anymore, but many home gardeners still fear them as fussy exotics more prone to fade than flourish.

"That's just not the case," insists the Garden's resident orchid grower Babs Wagner. "Orchids are tough, they're survivors. Over the last five to ten years, availability has increased with popular interest and I encourage all home gardeners to give orchids a try."

Orchids comprise the largest plant family in the world. Over 25,000 species and even more hybrids represent this impressive family, which spreads from tropical lands to Arctic regions. Orchid flowers range broadly in color—from pink to white to brown and pale green; size—from nearly microscopic to blooms two to three feet across; and scent—from unscented to richly sweet to a smell politely described as "carrion-like" (to attract pollinating insects). The family spread and developed so diversely thanks to excellent survival instincts: orchids are incredibly tough plants, able to make do in unfriendly environments and self-perpetuate in the wild even on the verge of death. Some orchids can live for over a hundred years...but yours might not. At least, not your first one.

Wagner counsels first-timers to "buy an inexpensive little plant from one of the big chains so you won't feel bad if you kill it." However, if you follow Babs's three simple steps for orchid-growing success, you may find orchid nirvana even on your first time out.

Step 1: Pick a Winner

The best location and care in the world might not save a diseased or damaged plant, and you're a first-timer, so don't start with one. Buy a healthy specimen.

"Remember that orchids in the Midwest are often trucked in from somewhere else—sometimes from as far away as California and Florida," says Wagner. "They are often damaged in transit, especially if they're brought in through the cold. Inspect your plant thoroughly."

Look for leaves that are healthy, no brown tips, no shriveling. Look for buds that are healthy, again not shriveling or dropping off. Go ahead and get an orchid already in flower, says Babs, but be prepared for the flowers to drop off relatively shortly and for the long wait before you get another burst of bloom.

"Most orchids flower annually for about two to three months at a stretch," says Wagner, "I know people who throw the plant away after it's finished blooming. It's a shame because with a little care and maintenance, that orchid will bloom again and again for years to come."

Step 2: Pick a Winning Location

It's like real estate: location, location, location.

"Orchids are incredibly forgiving plants," says Wagner, "They might live, but they won't *thrive* in a terrible location." Lucky for you, there are orchids to match almost every location. Check out the table (below right) to match the plant to your home, then assess these four essential environmental conditions in your chosen location:

Air: Orchids do not like stagnant air. This is a no-brainer, says Wagner, as air circulation is plentiful in most modern homes thanks to contemporary heating and cooling systems. If your house is particularly stuffy in the summer, you might want to place a fan in the room.

Orchid Classes

The Adult Education division of the Garden offers classes to members at a discount, with classes on orchids offered every fall and spring. Go to http://www.mobot.org/gardeninghelp/ on the web to view current course offerings.

PHOTOS BY JACK JENNINGS

PHOTO BY JACK JENNINGS

Temperature: Again, no sweat: just keep your orchid out of cold drafts and away from heating vents/radiators and it should be fine. For the more ambitious, and for maximum blooming, orchids enjoy an ideal temperature difference of ten degrees between night and day.

Light: There are orchids for many different light conditions, but no orchid will tolerate direct sunlight, so beware! Warm diffuse light, if you have it, is ideal for most orchids, but certain varieties will grow in less light and cooler temperatures.

Humidity: "The biggest single problem most home growers encounter is that the house is too dry," says Wagner. Orchids need 60–70% humidity to flower well. Devotees buy fancy humidity trays, but the simple home saucer works just as well. Fill it with gravel and water for the orchid pot to sit on, and keep the rocks wet.

Step 3: Pay attention!

All plants require water and food, but it is often in the application of these two essentials that maximum damage is wrought by the home gardener. How much and when are questions that cannot be answered exactly. So much depends on location, season, condition, species temperament, etc., and so the only advice that can be given is "pay attention!"

"Patience is an orchid grower's virtue," says Wagner. "Look at your orchid and pay attention to it."

Water: "Most people kill orchids by overwatering them. The roots rot and the whole thing declines pretty rapidly," notes Wagner. To avoid this problem, pay attention! Check out the table (below) for specifics on your species, but know that most orchids like to be damp. To that end, think about a weekly watering schedule. Also be sure to use room-temperature water.

Food: There are special orchid fertilizers, but most all-purpose fertilizers work just as well, says Wagner, and less is definitely more: "Take the recommended dosage, then cut it in half." During the big growth seasons (spring/summer), you might fertilize every other watering (so every other week). Don't fertilize every watering: your plant needs the plain water to leach out any fertilizer salts that may build up in the mix. In winter, feeding once a month is often plenty.

Troubleshooting

If your orchid has wilted leaves, shriveled pseudobulbs (thickened stem varieties), brown tips on the leaves, shriveling bloom spikes, etc.: check for lack of humidity and/or too much fertilizer. If both of these check out, it might be time to repot. Most orchids come packed in a fir bark mix, which breaks down completely over two to three years. Tap on the mix: if you can stick a finger in it, it's begun to break down and you should repot.

When in doubt, if you just can't figure it out, bring your orchid in to see the Plant Doctor at the Kemper Center, Monday to Saturday, 10 a.m. to noon and 1 to 3 p.m.

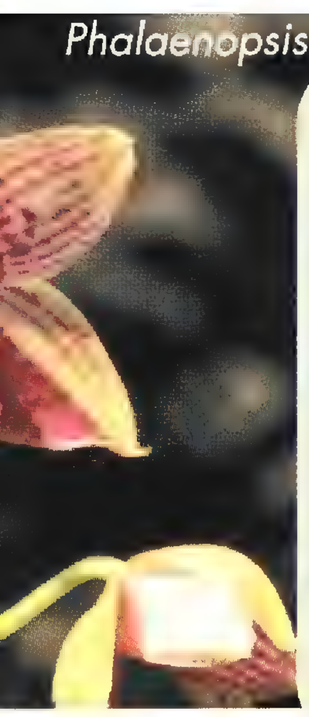
PHOTO BY ELIZABTEH MCNULTY

Orchid Specialist

When Martha Stewart's people need an expert for Martha's "Orchid Tips," they call Bob Wagner, Orchid Grower for the Missouri Botanical Garden. For over seven years, Wagner, with the help of seven volunteers, has overseen the care and development of the Garden's largest living collection, its over 8,500 orchids.

When she's not tending the Garden's specimens, Wagner cares for a "tiny" collection of 40–50 orchids in her home greenhouse. Does she have a favorite? "You learn quickly what you're good at. So much depends on your growing conditions. My greenhouse is too drafty for *Phalaenopsis*, but I love Cattleyas—such gorgeous colors and beautiful fragrances—and the Cymbidiums. Oh, what am I saying? I love them all!"

Above: MBG Orchid Grower Bob Wagner at the workbench in the greenhouse orchid range.



Phalaenopsis

Four Recommended Orchids for First-Time Growers

Species	Common name	Light	Water	Notes
Phalaenopsis	Moth orchids	Moderate	Keep barely moist.	Easiest variety. Repot only as needed because the root system is delicate
Paphiopedilum	Lady slipper	Moderate	Keep barely moist.	Likes to be cozy in its pot.
Dendrobium		More light	Keep barely moist.	Likes to be rootbound.
Cattleya		Most light	Pseudobulb stores water, so only water after it dries out completely.	Grows laterally, so allow room for 1-2 years growth when repotting.

home gardening

Garden Observer

Behind the Scenes with some Background Plants

PHOTO BY ELLEN FLESCH

by Chip Tynan,
Horticulture Answer Service Manager

Every flower show has a theme plant; for the holiday show, it's poinsettias, and orchids, of course, take center stage for the annual orchid show. Not to be overlooked are the unsung heroes, the background plants that form the "bones" or the green backdrop of every show. Think of them as support staff, but every bit as necessary to a show's success. Their makeup varies from show to show. Some may be annuals grown just for a single show, then discarded, but many are permanent residents in the greenhouse ranges—a variety of palms, figs, hibiscus, ferns, and philodendrons are among the familiar faces. These are tended to meticulously throughout the year by staff horticulturist Richard Harrison.

A less familiar plant that never fails to elicit many visitor inquiries is the Snow bush (*Breynia nivosa*). Noted for its variegated foliage, new tip growth starts out white, then becomes variably blotched with red, pink, and green hues. In recent years it has become more widely available as a summer tropical for in-ground planting or as a container specimen that can be overwintered indoors in a bright, cool, humid location and carried over from year to year. The Powderpuff tree (*Calliandra haematocephala*) is another visitor favorite. Large, soft, bright red powder puff-like flower clusters are set off by lush, dark green compound leaves, making this winter bloomer a perfect holiday combination. To maintain their multistemmed shrubby habit, Richard prunes his Calliandras back severely once the show is over and vacations them outdoors behind the greenhouses all summer. A large, older specimen trained in tree form can be seen growing year-round in the Climatron® where its flowers can be enjoyed from the south end of the bridge every winter.

PHOTO BY ELLEN FLESCH

Powderpuff tree below and Snow bush above right.

PHOTO BY ELLEN FLESCH

of 20 000 questions annually. An old-time generalist in a field increasingly dominated by specialists, Chip stays current in the many aspects of modern horticulture and is respected for his lifelong experience as a self-taught gardener. Well known locally for the weekly gardening column he writes for the St. Louis Post-Dispatch, Chip regularly teaches adult [illegible] talks to gardening clubs, and is frequently called upon [illegible] to speak on a wide variety of gardening subjects. He has been on the staff at the G[illegible] installment of a regularly occurring column for the Bulletin featuring short essays of his obser[illegible]

Go to the horticulture website and find... www.mobot.org/hort

Plant Finder: Cultural information on over 2000 plants growing in the Kemper display gardens.

Gardening Help: Information on over 300 gardening topics, including all Hortline messages.

Plants of Merit: plants selected by local horticulturalists with outstanding qualities for dependable performance in the region.

Find-A-Plant: Search the living plant database to find what plants are growing in the garden and where

Integrated Pest Management: Diagnostic and control measures for nearly 100 of the most common insect, disease, and environmental problems encountered in Missouri.

Plants in Bloom: Updated weekly at the Garden, along with current photos, updated biweekly.

Nursery Tracker
A website to help gardeners find plants and local gardening services.
www.thegardenexperts.org

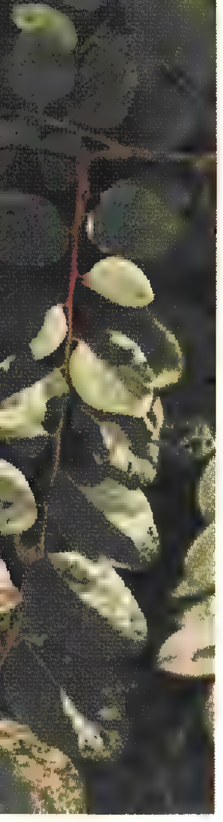
Hortline 24-Hour Gardening Help
Call (314) 776-5522
for prerecorded tips or search
www.mobot.org/gardeninghelp.

Horticulture Answer Service
Call the Horticulture Answer Service where Master Gardeners provide personalized answers to your specific phone-in gardening questions, 9 a.m. to 12 noon, Monday through Friday. Call (314) 577-5143.

Adult Education Classes
To view current classes for adults, families, and horticulture professionals, and to read about our instructors, go to www.mobot.org/gardeninghelp and click on "View current classes."

Composting Hotline
(314) 577-9555

XPLOR
For links to University of Missouri Outreach and gardening information, go to www.muextension.missouri.edu/xplor/agguides/



Christmas Tree Recycling

Thurs., Dec. 26, 2002 to Mon., Jan. 20, 2003

Drop off holiday trees at the marked lot in the 4500 block of Shaw between Vandeventer and Kingshighway, directly across from the Monsanto Center, east of the railroad tracks. All decorations should be removed; no bagged trees please. For more information call the hotline at (314) 577-9555.

A service of the Garden and the St. Louis Post-Dispatch.

plant societies

This list will be hereafter published once a year in the January issue of the Bulletin. To change your listing, call (314) 577-0851 or email ellen.flesch@mobot.org. The most current information will be available year-round on the Garden's website: www.mobot.org.

American Orchid Society (Mid-America Regional Judging Committee)
David Brown, (314) 727-2385

Belleville Area Rose Society
Dennis Nelson, (618) 233-4609
nomepages.ezeeweb.com/rosenut

Bonsai Society of Greater St. Louis
Bob Harris, (314) 352-0817,
bobharris@accessus.net

Boxwood Society of the Midwest
Mary Clair Wenger, (314) 846-2834

Dahlia Society of Greater St. Louis
Ellis Evans, (314) 843-3767

Federated Garden Clubs of Missouri
Elizabeth Roche, (314) 544-4337

Gardeners of America (Ozark Region)
Russell McClellan, (314) 837-2470

Gateway West Gesneriad Society
Gary Dunlap, (636) 789-3604,
patspets@JCN1.com

Greater St. Louis Daffodil Society
Jason Delaney, (314) 577-0234,
jason.delaney@mobot.org

Greater St. Louis Daylily Society
Elaine Hogg, (314) 432-4206

Greater St. Louis Iris Society
Jim Morris, (636) 256-3927
morrisje1@aol.com

Henry Shaw Cactus Society
Pat Thomann, (314) 892-1123

Metro East Herb Club
Dapnne Sumner, (618) 538-7739

Metropolitan St. Louis Africa Violet Council
Nancy Amelung, (314) 961-7142
www.avsa.org/LocalClubs.asp

Mid-America Regional Lily Society
Fred Winterowd, (314) 423-5313

Missouri Botanical Garden Daylily Society
Bill Lenz, (314) 487-6588, lopilllenz@juno.com

Missouri Mycological Society
Maxine Stone, (314) 963-0280,
verymaxine@aol.com
www.missourimycological society.com

Missouri Native Plant Society
George Yatskievych, (314) 577-9522
george.yatskievych@mobot.org
http://web.missouri.edu/~umo_herb/monps/

Missouri Orchid Society
Ron Taube, (314) 961-0577
taubedove@aol.com

North American Rock Garden Society, Gateway Chapter
Sandy Evertowsk, (314) 837-4841

Orchid Society of Greater St. Louis
Millie Schettle, (636) 584-0494,
schettle@usmo.com

Rose Society of Greater St. Louis
Bob Jeffress, (636) 946-7109

St. Louis Carnivorous Plant Society
Deborah Stopsky,
sleepdreams@addlebrain.com,
www.stlearns.homestead.com/home.html

St. Louis Evening Herbalists
Linda Burke, (314) 961-4314,
cleftstone@aol.com

St. Louis Herb Society
Nancy Kirchhoff, (314) 822-9336,
stlherbers@aol.com

St. Louis Horticultural Society
Mindy Keyser, (314) 421-6610 x236
mkeyser@arn.com

St. Louis Hosta Society
Sandra Copeland, (636) 447-5980,
sand@stlouishosta.com

St. Louis Water Garden Society
Joe Summers, (314) 961-1971, www.slwgs.org

Webster Groves Herb Society
Nancy Waddell, (636) 464-6085
petaleaposes@aol.com

West County Daylily Club
Ms. Chick Buenrig, (314) 389-8261
buehrig31@aol.com

Wild Ones Natural Landscapers, St. Louis Chapter
Scott Woodbury, (636) 451-3512
scott.woodbury@mobot.org
www.for-wild.org

Kemper Center
for Home Gardening

5th Annual Dirt Festival

Sat., Mar. 8, 2003
8:30 a.m. to noon

Enjoy free gardening lectures by area specialists. Advance registration by February 24th required.

Soil Tests (Optional)

This is a great opportunity to test your soil and learn what amenaments to add before the gardening season begins. Mail samples by the Monday, February 24, deadline and pick up the results on the day of the Dirt Festival. Select the type of soil test desired, write in the number of samples being sent, and indicate what plants are going to be grown.

___Basic Soil Test $20

Analyzes pH, organic matter, phosphorus, potassium, calcium, and magnesium. Good for determining fertilizer requirements and routine analysis of your lawn and garden.

___Complete Soil Test $35

Basic test plus levels of sulfur, iron, boron, copper, manganese, and zinc. For problem soils or when converting a new area into garden or lawn.

Crop or Plant To Be Grown (please circle one):

Annuals	Perennials	Bulbs	Roses
Herbs	Indoor Plants	Shade Trees	Shrubs
Small Fruit	Vines	Ground Covers	Fescue
Lawn	Zoysia	Vegetables	
Rhododendrons/Azaleas			

Registration (Name of person on soil test report):

Name_____

Address_____

City_____State_____Zip_____

Phone (____)_____Email_____

Mail this form with your check payable to:

Missouri Botanical Garden Dirt Festival
Kemper Center for Home Gardening
P.O. Box 299
St. Louis, MO 63166-0299

Call (314) 577-9562 daily, 9 a.m. to 5 p.m., if you have questions.

news

Herb Garden Renovation

Regular visitors to the Garden this fall could not miss our very own "big dig," taking place behind Tower Grove House. A daily parade of contemporary building equipment—dump truck, backhoe, bobcat, mini-track hoe, soil compactor—has invaded the historic Herb Garden since last fall. They are excavating and rebuilding drains and water lines, a path under the drainage system, and patterned brick quadrangles. Once finished, the Horticulture Division will restore the plantings in late spring 2003, and it will be a year or more until the garden regains its former glory.

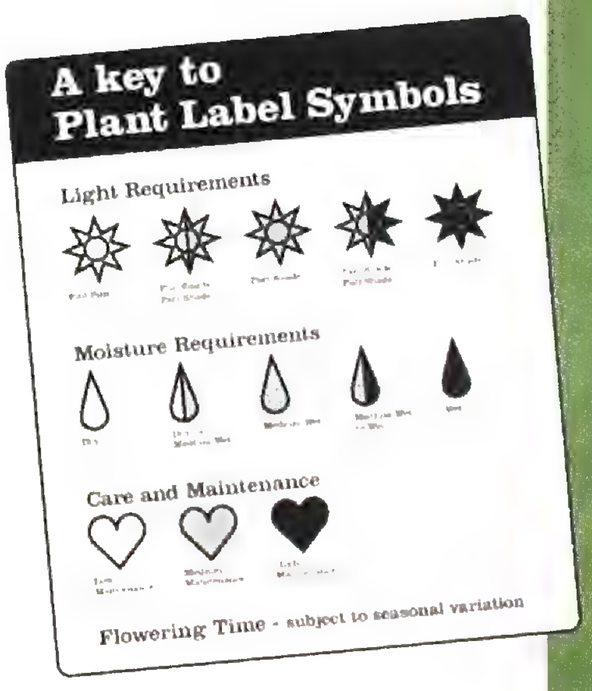
Renovations were much needed. When the Herb Garden was first constructed in the 1960s, no provision was made for drains in the paths, causing problems during heavy rains and over winter when low spots froze. Over the years the brick paths had settled in places, compounding the problem. Many of the bricks were chipped or cracked and needed replacement, as did the perimeter fencing, which had been pieced together over the years from three different designs. The original wall on the south side of the garden had settled and needed concrete repair and resurfacing. The stone wall will not only be repaired, but restored to historic beauty with round ornamental capitols. And the fencing is to be replaced with a pattern matching the existing ornate Victorian fence design, complimenting the double south gates at the stone columns.

With Tower Grove House and the Garden over 150 years old, have there been any unforeseen circumstances during the project so far? "Nothing out of the ordinary, if you work at the Botanical Garden," laughs Joseph Phillips, Construction Project Supervisor and auto-CAD Technician. "In Shaw's day, they pumped water by hand into buckets; they didn't have an irrigation system for this garden. They collected rainwater from the gutters of the house into underground cisterns. We knew one existed, but found a second one unexpectedly."

Herb Garden renovations are being made possible through a generous donation of the St. Louis Herb Society. The Herb Garden is named for The St. Louis Herb Society, whose members maintain and care for this historical garden behind Henry Shaw's country estate. The organization celebrated its 60th anniversary in 2001, making it the oldest volunteer organization at the Garden. Their members were the first volunteers in the Horticulture Division. Although the group has long made contributions to the Garden for upkeep purposes, they began designating larger gifts toward the renovation in 1996 when conversations about a possible renovation began.

In 2001, Barb Ottolini and Sondra Ellis spearheaded a campaign to raise additional funds to cover the construction costs for the new Herb Garden. Members of the Herb Society were asked for individual gifts to this special fund, called The St. Louis Herb Society Legacy Fund. "The Herb Society is a diverse group of people united in the study and pleasures of herbs," says Ottolini. "The Herb Garden is our outdoor classroom. It needed renovation for many years, and we saw this opportunity to help as part of the Herb Society's legacy to the people of St. Louis."

A key to Plant Label Symbols



Signs of the Times

The most basic informational unit at the Garden is the plant label. In the past, there have been several label formats, but most bear the same information for the plant in question: the common name, the scientific Latin name, and the native range of growth. For the last several years, signs in the Kemper Center for Home Gardening have included additional information—light and moisture requirements, care and maintenance required, even flowering time—in the form of symbols (see chart at right). Home gardeners have praised the system, using the additional information to better select and care for plants in their own backyards. To that end, the Horticulture team is instituting this expanded signage throughout the Garden. Over time, as old labels wear out around the Garden, they will be replaced with the new, more informative signs. Look for them everywhere.

profiles

PHOTO BY TIM PARKER

Chollet Named to MO Energy Council

Deborah M. Chollet, director of the Garden's Gateway Center for Resource Efficiency, is one of 13 members appointed by Governor Bob Holden to the newly created Missouri Energy Policy Council.

In 2001 the governor appointed the Missouri Energy Policy Task Force, which was designed to examine the energy policy of the state with an emphasis on affordable heating. One recommendation from the task force was to create a permanent body to examine all aspects of Missouri energy policy. The new council will work with state governmental departments to supply guidance about energy policies, based on its members' diverse backgrounds and extensive experience

"According to the Missouri Department of Natural Resources," said Chollet, "Missouri citizens spend nearly 11 percent of their total income on energy. However, most of that money leaves Missouri because 88 percent of the energy we consume comes from outside our state. I welcome this opportunity to work with the Missouri Energy Policy Council to examine options for energy supply alternatives as well as energy efficient technologies that will enhance our state's economy and environment."

PHOTO COURTESY WILLIAM DAHL

Dahl Named BSA Director

William M. Dahl has been named the first executive director of the Botanical Society of America (BSA), one of the world's premier professional societies devoted to the scientific study of plants and allied organisms. The BSA relocated its headquarters to the Garden from Columbus, Ohio, in summer 2002.

BSA is a non-profit scientific society that promotes research and teaching in all fields of plant biology, facilitates cooperation among botanists and other scientists worldwide, and disseminates knowledge of plants, algae and fungi to solve practical problems of humanity. It publishes the monthly *American Journal of Botany* and quarterly *Plant Science Bulletin* and maintains the website www.botany.org. Members include nearly 3,000 North American and foreign professional plant biologists, located at universities, colleges, museums, state and federal agencies, gardens and arboreta.

"Being affiliated with an institution like the Missouri Botanical Garden enormously increases our potential to promote science generally and to promote the advancement of botany," says Dahl.

Dahl was most recently general manager for a leading provider of non-profit, community-based behavioral health and social services in New Zealand.

calendar

January

Tower Grove House is closed in January for renovation.

Trams do not run in January and February.

Fri., Jan. 3
Garden Gate Shop closed for inventory

Sat., Jan. 4
Saturday, featuring an insect or butterfly related educational activity for kids ages 4 to 10. Children under age 4 must be accompanied by an adult. 11 a.m. CGS. Call (636) 530-0076 for details. Brit

Sun., Jan. 5, 12, 19, & 26
[illegible] the public television series answer questions and direct hands-on activities. See page 4 for details. Reservations [illegible]

Mon. & Tues., Jan. 6 & 7
Garden Gate Shop closed for annual cleaning

Sat., Jan. 11
Garden Storytime for children ages 4 to 10. Children under age 4 must be accompanied by an adult. 11 a.m. CGS

Wed., Jan. 15
The Stuff We Build with [illegible] and Materials. Lecture by Nadav Malin, editor of *Environmental Building News*. Reservations requested by Jan. 8. Call [illegible]

Wed., Jan. 15
Green Building Products Expo featuring green building products. Opening reception 5 to 7 p.m. [illegible] (314) 577-0220. [illegible]

Thur., Jan. 16
Green Building Products Expo continues. Call (314) 577-0220 for additional information. [illegible]

***Fri., Jan. 17**
Members' Day: [illegible]

Fri., Jan. 17, to Sun., Jan. 19
Book fair; get an early start on plans for [illegible] food tastings 1 to 4 p.m. CGS.

Fri., Jan. 17
[illegible] of the EarthWays Home at Grand Center. Call (314) 577-0220. [illegible]

Sat., Jan. 18
Craft Saturday, featuring an insect or butterfly related educational activity for kids. Call (636) 530-0076 for details. Brit.

Mon., Jan. 20, to Fri., Mar. 7
[illegible] postmodern landscape paintings by John Lojuer, Assoc. Professor of art at CMSU. 9 a.m. to 5 p.m. RC.

Mon., Jan. 20, to Fri., Mar. 7
"Celebrating A Century of Conservation" at U.S. Fish and Wildlife [illegible] 9 a.m. to 5 p.m. RC.

***Fri., Jan. 31**
Members' Event: Preview party for the [illegible]

February

Sat., Feb. 1, to Sun., Mar. 16
Enchanted Forest orchid show [illegible] $3 for adults ($2 for seniors). Members and children 12 and under are free.

Sat. & Sun., Feb. 1 & 2
Missouri Orchid Society show and sale. 9 a.m. to 5 p.m. RC.

Sat., Feb. 1, to Mon., Mar. 31
[illegible] under the bridge and into the limelight. See page 22 for more information. Brit

Sat., Feb. 1
[illegible] butterfly related educational activity for kids [illegible]

Sat., Feb. 8
Garden StoryTime for children ages [illegible]

***Sun., Feb. 9**
Members' Event: Valentine Dinner Dance. See page [illegible] and reservations are required by Mon. [illegible]

Sun., Feb. 9
[illegible]

Wed., Feb. 12, to Sun., Feb. 16
Fruits of the vine receive an additional [illegible]

***Thurs., Feb. 13**
[illegible]

Sat., Feb. 15
Craft Saturday, featuring [illegible] butterfly related educational activity for kids [illegible]

Sun., Feb. 16
"Celebrate the Great [illegible] Art of each Baptist [illegible] details. 3 p.m. [illegible]

Fri., Feb. 21
Tour of the Earthy [illegible] 9 a.m. - 11 [illegible]

Sat. & Sun., Feb. 22 & 23
[illegible]

Sat., Feb. 22
Food tasting 1 to 4

Sat., Feb. 22
[illegible] Great [illegible] examine a real [illegible] restaurant. 2 p.m. Brit

Groundhog Day

[illegible]

# of events

March

Beginning Mon., Mar. 3
Spring classes and tours at the Missouri Botanical Garden for adults and families. A wide variety of educational opportunities for many interests, schedules, and budgets. Classes are held at the Garden's main campus in St. Louis, its Arboretum at Englemann Woods in Ellisville, MO, and at the Gateway Center for Resource Efficiency in Grand Center. Many single- and multiple-session classes are offered in plant care, landscape design, gardening, botanical art & crafts, photography and more. For information on classes at the Garden visit www.mobot.org/gardeninghelp or call (314) 577-9441.

Now through Fri., Mar. 7
"Missouri Discoveries," an exhibition of postmodern landscape paintings by John Lauder, associate professor of art at Central Missouri State University. 9 a.m. to 5 p.m. RC

Now through Fri., Mar. 7
"Celebrating A Century of Conservation," a U.S. Fish and Wildlife exhibit. 9 a.m. to 5 p.m. RC

Now through Sun., Mar. 16
"Enchantea Forest" orchid show 2003. 9 a.m. to 5 p.m. RC $

Sat., Mar. 8
Fifth Annual Dirt Festival. Improve your soil for healthy plant growth and hear lectures by local specialists. See page 13 for details. 8:30 a.m. to noon RC.

Sat., Mar. 8
Garden StoryTime, for children ages 4 to 10. Children under age 4 must be accompanied by an adult. 11 a.m. GGS

Sat., Mar. 8
Bring the kids and your open mind to delve deep into the secret life of the roach. They don't all raid your fridge. Focus will be on the real role that roaches play in the ecosystem. 9:30 a.m. BH

Fri., Mar. 14
Photo legend Jay Maisel presents his most recent work in a lecture to initiate the first annual Ernst Haas Memorial lecture. See page 22 for details. 8 p.m. RC. $.

Sat. & Sun., Mar. 15 & 16
First annual Ernst Haas Memorial workshops. Photo legend Jay Maisel conducts a master nature photographer series. Call (636) 451 3512 for reservations. SNR. $.

Mon., Mar. 17, to Tues., Apr. 8
"Remains of a Rainbow." Exhibition of over 100 photographs of Hawaii's rare plants and animals by Susan Middleton and David Liittschwager. See page 32 for more information. RC.

***Wed., Mar. 19**
"Remains of a Rainbow" lecture and book signing for Members. Guided tour follows the lecture. 11 a.m. RC.

Sat. & Sun., Mar. 29 & 30
Mid-America Regional Lily Society sale. 9 a.m. to 5 p.m. RC.

PHOTO COURTESY FUN SAFARIS

South African Adventure

Join MBG educators and scientists Ellen McCallie and Peggy Kelly on a 14-day botanical and safari expedition to South Africa! Enjoy springtime in Capetown. Watch for migrating Southern Right Whales. Explore world-class botanical gardens and vineyards, taking behind-the-scenes tours. Safari at internationally recognized game preserves, including Mala-Mala! This all-inclusive tour provides the comfort, safety, and amenities that allow us to enjoy thoroughly the beauty and wonders of South Africa. Space is limited. For information and a brochure, please call (314) 577-9461 or (314) 577-5131.

Key
All events are free with admission or Membership unless otherwise noted.

BH = Butterfly House
CA = Cohen Ampnitheater
CL = Climatron
EH = EarthWays Home
GGS = Garden Gate Shop
JG = Japanese Garden
KC = Kemper Center
MC = Monsanto Center
RC = Ridgway Center
SNR = Shaw Nature Reserve
SP = Spink Pavilion

* denotes a Members-only event.

$ denotes an additional fee.

Missouri Botanical Garden
4344 Shaw Boulevard
St. Louis, MO 63110

Hours
The Garden is open every day except Christmas, 9 a.m. to 5 p.m. Extended summer hours are on Wednesday evening for 2003. Parking is free.

Admission
- Free for Members
- General admission is $7 ($3 for St. Louis City/County residents).
- Senior admission (65+) is $5 ($1.50 for St. Louis City/County residents).
- Children age 12 and under—free.
- Garden admission is free to St. Louis City and County (ZMD) residents until noon every Wednesday and Saturday throughout the year, (except during Japanese Festival and Best of Missouri Market).
- Special events may require a small additional fee.

Information
For 24-hour, pre-recorded information, call (314) 577-9400. Outside the (314) area code, call toll free 1-800-642-8842.

Tours, Education, Fitness
Take a self-guided "Great Garden Adventure" tour. Ask at the ticket counter about a Fitness Foray, Stroller Strut, Kids' Quest, or Guided Exploration. Wheelchair-friendly route also available.

Walking tours led by Garden Docents leave from the ticket counter at 1 p.m. daily throughout the year (except during Japanese Festival and Best of Missouri Market).

Guided tours of Tower Grove House, Garden founder Henry Shaw's 1851 country home, are available daily, between 9:45 a.m. and 4 p.m. Nominal extra charge. **The Tower Grove House is closed in January for renovation.**

Hands-on learning activities are presented each Saturday throughout the year from 10 a.m. to 2 p.m. These fun activities are tailored to fit the age range of the audience and utilize toys, puzzles, and games to help visitors learn about plants and their environment. Brookings Interpretive Center or on the Garden grounds.

Garden walkers' breakfasts. In cooperation with the American Heart Association, the grounds open early every Wednesday and Saturday at 7 a.m. to encourage fitness walking. A light breakfast is available for purchase in the Garden Café starting at 7 a.m.

members

2003 Orchid Show Preview

An Enchanted Evening in the Enchanted Forest... join us on Friday, January 31, for a gala grand preview of the 2003 Orchid Show "The Enchanted Forest." Be the first to tour this magnificent display of one of the world's premier orchid collections, seen only once a year in its complete grandeur. Musical entertainment will be provided, as well as a cash bar. A special dinner buffet will be available in the Garden Café for $16.95 per person. The Garden Gate Shop will be open. Call Brenda Zanola at (314) 577-0879 for more details.

Orchid Show Preview
Friday, Jan. 31, 5 to 8 p.m.
Orthwein Floral Display Hall

PHOTOS BY KING SHOENFELD

Valentine's Dinner Dance

A night to remember... enjoy a romantic dinner in Monsanto Hall, then stroll with your special someone through the orchid show, visit the Linnean House where the camellias are in full and fragrant bloom, and dance the night away. Dinner is served from 6:30 to 8 p.m. Music and dancing from 7:30 to 10:30 p.m. Cash bar. Dinner by reservation only ($50 per person). Seating is limited, so please call soon to reserve your space (314) 577-9500. All reservations must be received by February 3.

Valentine's Dinner Dance
Sun. Feb. 9, 6:30 to 10:30 p.m.
Ridgway Center and beyond

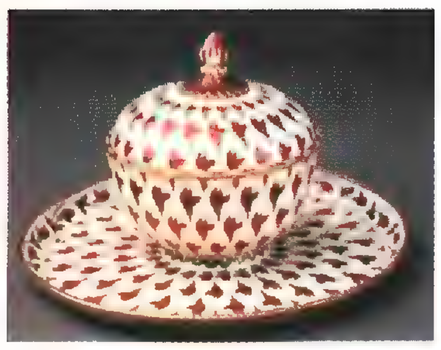
Valentine's Dinner Menu

- Field greens tossed with citrus vinaigrette and garnished with hearts of palm and shaved red peppers
- Your choice of Grilled Salmon Filet with Southwestern Corn Sauce or Peppered Strip Steak with Balsamic Demiglaze
- Served with gratin of potatoes, haricots verts, and carrots.
- And for dessert: Rasberry Flan with whipped cream and a chocolate-dipped pistachio cookie
- Each guest will receive a complimentary glass of champagne.

Put Yourself in the Director's Seat!

Upgrade your Membership now and receive this chic, portable director's chair, perfect for outdoor events and concerts like the Garden's Whitaker Music Festival. Bring your friends, too, because when you upgrade from a Regular to a Family Membership, you'll be entitled to bring up to ten guests—free! You'll also get added perks like free tram tickets and complimentary passes to the Sophia M. Sachs Butterfly House, so what are you waiting for? Upgrade today and enjoy all the privileges of higher level Membership in 2003.

members days



Treasury of the World

Please join us for "Treasury of the World–Jeweled Arts of India in the Age of the Mughals," a very special lecture by Sidney M. Goldstein, Curator of Ancient and Islamic Art at the St. Louis Art Museum. Mr. Goldstein will dazzle us with images from this current exhibit of jeweled arts now on display at the museum. The exhibit is drawn from the extensive collection of the al-Sabah Collection in the Kuwait National Museum. Many of the jeweled items feature floral and botanical motifs and are spectacular examples of the riches of the period.

Treasury of the World
Fri., Jan. 17, 11 a.m.
Shoenberg Auditorium

PHOTO BY BRYAN RECKAMP

Behind the Scenes

"Behind the Scenes" provides a backstage pass to the Garden's greenhouses, as well as a guided tour of the 2003 orchid show. Operations Manager Jim Cocos and Greenhouse Supervisor Cathy Pauley will lead the tour of the Garden's greenhouse and horticulture operations. A presentation in Shoenberg Auditorium will be followed by a visit to the headhouse, potting areas, and other sights typically unseen by the public. See what it takes to make the Missouri Botanical Garden the world-renowned showplace that it is. We will then tour the 2003 Orchid Show with our very own Garden Docents.

Behind the Scenes
Thurs., Feb. 13, 11 a.m.
Shoenberg Auditorium

2003 members days

Fri., Jan. 17	"Treasury of the World" (see above)
Thurs., Feb. 13	"Behind the Scenes" (see above)
Wed., Mar. 19	*Remains of a Rainbow* authors join us for a slide presentation, book signing, and tour of this beautiful photography exhibit.
Wed., Apr. 9	Low-maintenance perennials for the St. Louis garden with Angie Eckert
Thurs., May 22	Rose Evening
Fri., June 6	Members' Musical Evening
Thurs., July 24	Henry Shaw Birthday celebration
Fri., Aug. 8	Missouri Wineries with local experts
Wed., Sep. 10	Water lilies and the Garden's reflecting pools with Jon Sweeney
Wed., Oct. 29	Fall Color Tour of the Garden and Tower Grove Park
Thurs., Nov. 13	Holiday Decorating and Entertaining
Sat., Dec. 13	Holiday Concert

Membership Benefits

Free Admission to the Garden, including the Garden Café, Tower Grove House, Shaw Nature Reserve, and EarthWays Home for two adults and all children under age 18 for one year. Discounts on admission to Garden public events.

Free Publications including the Bulletin, 6 issues a year filled with information and activities at the Garden, Shaw Nature Reserve, and Sophia M. Sachs Butterfly House plus home horticulture advice from the experts at the Kemper Center for Home Gardening.

Flower Show Parties
Previews of the annual holiday flower show and orchid show.

Monthly Members' Days
Special programs presented exclusively for Garden members and their guests feature free tram rides, 10% off in the Garden Café, and special discounts in the Garden Gate Shop.

Garden Gate Shop
The Garden Gate Shop presents annual spring, fall, and holiday sales with 20% discounts for members only.

Discounts
Members receive 10% off all purchases in the Garden Gate Shop, plus special rates on selected educational courses.

Members' Travel
Special trips explore public and private gardens around the world.

Reciprocal Admission
to over 150 selected botanical gardens around the country.

Discounted Subscription Rate
for *St. Louis Homes & Lifestyles* magazine.

A Big Thank-you!

Thank you to our Holiday Wreath Exhibition sponsor Edward Jones. The lovely holiday wreath display would not be possible without the participation of our many designers and our warmest appreciation goes to them: Wildflowers, Twigs and MOSS, The Southern Floral Shop, Studio–P, MKS Design Inc. Maxwell Homestead Greenhouse, Ladue Florist, Hereford Andrew Designs, Hori, Dale Rohman Enterprise, Inc., Catering St. Louis, Botanicals on the Park, and BitterSweet Botanicals.

development

PHOTO BY ELIZABETH MCNULTY

Judi Schraer Receives CFRE

Planned Giving Officer Judi Schraer has been awarded the professional designation of Certified Fund Raising Executive. Applicants must pass a written examination following application, and as a condition of status, agree to uphold CFRE International's Accountability Standards and Donor Bill of Rights.

After working at the Winston Churchill Memorial at Westminster College in Fulton, MO, Judi Schraer joined the Garden in 1997 and says that she greatly enjoys "working for an institution that holds such a wonderful place in the lives of St. Louisans."

As Planned Giving Officer, Judi talks to people about the benefits to their families and to the Garden of including a provision in their estate plans to further the mission of the Garden. She finds the generosity of the local community amazing. "Sometimes it's almost a challenge to find the time to get to know so many people, to meet them all, and thank them for their generous donations."

"We congratulate Judi on her CFRE Certification," says director of development Patty Arnold. "It affirms what we have long known: that Judi is a true professional and an invaluable member of the Garden's fund-raising team."

For information on charitable gift annuities and the Garden's Heritage Society, call Judi at (314) 577-9455 or email judi.schraer@mobot.org.

Corporate Partners

The Corporate Partners program is designed to strengthen the relationship between the Missouri Botanical Garden and the corporate community in the greater metropolitan region. Garden Trustee and committee chair Ed Higgins invites you to consider the benefits of membership. Becoming a Corporate Partner offers your company many privileges. For information, please call Jamie at (314) 577-9513 or email jamie.cox-robertson@mobot.org.

We are pleased to recognize corporations who have recently joined, renewed, or upgraded their Corporate Partner membership.

Underwriter Level ($5,000 to $9,999)

A.G. Edwards

Supporter Level ($1,000 to $4,999)

Arch Coal, Inc.
Hardee's Food System
Forms Distribution
SSE
Vantage Credit Union

Daylily Society Donation

Throughout the years, the Garden's many flower and plant societies have steadfastly supported their avowed favorites in ways big and small, sometimes publicly, often silently. For example, a recent donation by the Greater St. Louis Daylily Society allowed the Horticulture Division to purchase new introductions and several pieces of needed equipment. Thanks to all the societies and friends of the Garden who perform such feats of generosity. Your donations make a visible difference.

Year-end Appeal

As 2002 drew to a close, you may have noticed additional mailers and phone calls from the Garden. Every December the Garden makes a year-end appeal to Members, the people we count on most to support and maintain Henry Shaw's vision. How proud Shaw would be of your generosity: as of mid-December, the Garden has already received several thousand dollars in pledges, with an average gift over $100. Your gifts enable the Garden to respond quickly to sudden opportunities for service and programming and to continue to be a haven of horticultural beauty. Your commitment stands as an enduring legacy for all who love Shaw's Garden. Thank you!

To make a gift, please contact Cathy at (314) 577-0858 or email cathy.sullivan@mobot.org.

donor profile

Jack Kourik

In 1996, as Jack Kourik walked the Garden with his son Robert, the author of several gardening titles, they noticed a large, old Sweetgum tree that had been damaged by lightning. That's when lightning struck again, figuratively, and Jack was inspired to protect other significant trees. Today, Kourik lightning rods grace five major heritage trees in the Garden, and two more trees are scheduled for protection in 2003. It is the Garden's continuing good fortune to have John W. Kourik not only as the self-appointed guardian of the Garden's old and beautiful mature trees, but also to have him as a friend year-round. Through his upper-level Membership, Jack contributes annually to the Garden's general operating fund, which enables the day-to-day maintenance of the Garden's renowned horticultural displays.

Jack serves on the Garden's Bequest and Gift Advisory Council and is a member of the Heritage Society as well as a Garden Fellow. His interest in gardening started in grade school when he won a competition for his home garden plot. Today, he maintains a modest annual-perennial garden at his home. His son Robert is a professional landscape designer in California and his daughter Janet lives in St. Louis. His wife, Rosa May, taught in the special school district, and Jack would often pick her up after school to visit the Garden. He honors her memory today in all of his Garden involvements, and has made arrangements to continue their legacy by advancing the Garden's mission with his estate.

"Jack has been the ultimate ambassador for the Garden, serving on numerous committees, attending Garden events, and funding important projects," says director of development Patty Arnold. "It has been our pleasure to work with him over the years, and we are truly grateful for his exceptional commitment."

Don't Miss

"The Stuff We Build With: Looking at Green Products and Materials," a lecture by Nadav Malin, editor of *Environmental Building News*. Wed., Jan. 15, 7 p.m. Shoenberg Aud. RC. Garden Members are also invited to the opening reception of the Green Building Products Expo, 5 to 7 p.m. RC. Reservations are requested. Call (314) 577-0220. Expo continues on Thurs., Jan. 16, 9 a.m.

EarthWays Home Tour
Fri., Jan. 17 & Feb. 21
10 a.m., 11 a.m., noon, 1 p.m.
$2, free to Garden Members
Group tours by appointment; call (314) 577-0220.

Gateway Center

Windows on the Future of Energy

by Jean Ponzi

Five new murals have transformed boarded windows into vivid depictions of the major renewable sources of energy, on the grounds of the Gateway Center for Resource Efficiency's headquarters, the EarthWays Home.

Applications of solar, hydro, biomass, geothermal, and wind power offer clean and virtually unlimited energy, through technologies already in use around the world. Public education about these fossil fuel alternatives helps build demand for renewables in a rapidly changing energy marketplace.

Staff of the Garden division Gateway Center for Resource Efficiency promotes energy-conserving innovations through outreach programming for schools and businesses; community education features tours of their headquarters, the EarthWays Home. The colorful mural graphics interpret the kind of photovoltaic and ground-source systems in everyday use at the EarthWays Home, as well as a wind farm, hydroelectric dam, and corn grown to fuel vehicles. Informational signage is being planned to accompany the permanent outdoor installation.

Sarah Linquist, Master Scenic Artist for the St. Louis Muny Opera and partner in the visual art company On The Wall Productions, designed the murals. She also contributed extensive experience with participatory public art projects to the Fall Energy Festival at the EarthWays Home, where she led dozens of visitors and volunteers in painting the panels. The paint-by-number event was a highlight of the October festival, and all five pieces were completed in a single day!

"Like images portrayed on stained glass windows, these murals directly communicate the power of their subject, the renewable energy sources," says Deborah Chollet, director of Gateway Center. "People can see how the energy of natural forces like sun, wind, and the Earth's heat can work to meet today's energy needs."

Support for the energy murals and other exhibit development in the EarthWays Home has been provided by a grant from the Boeing Employees Community Foundation.

PHOTOS BY DALE DUFFER

PHOTO BY TIM PARKER

PHOTO BY TIM PARKER

Program manager Jean Ponzi is a communications specialist, who first joined the Garden with the ECO ACT program in 1986. She later produced corporate video for Ralston-Purina, and went on to become the program director for KDHX St. Louis Community Radio. She coordinated four major local environmental festivals before joining Mid-America Energy & Resource Partners in 1995. In 2000, MERP metamorphosed into one of the Garden's newest divisions, the Gateway Center for Resource Efficiency. Jean's environmental talk show "Earthworms" is in its 14th year on KDHX (FM-88, Tues., 7 p.m.) and she writes a column for The Healthy Planet *newspaper. Recycling is her biggest thing professionally, and she looks pretty good in green.*

EarthWays Home

A division of the Garden since 2000, the Gateway Center for Resource Efficiency is headquartered in the EarthWays Home, a century-old Victorian house renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. Located in the historic Grand Center theater district at 3617 Grandel Square. Tours are available on the third Friday of each month. Call (314) 577-0220.

Shaw Nature Reserve

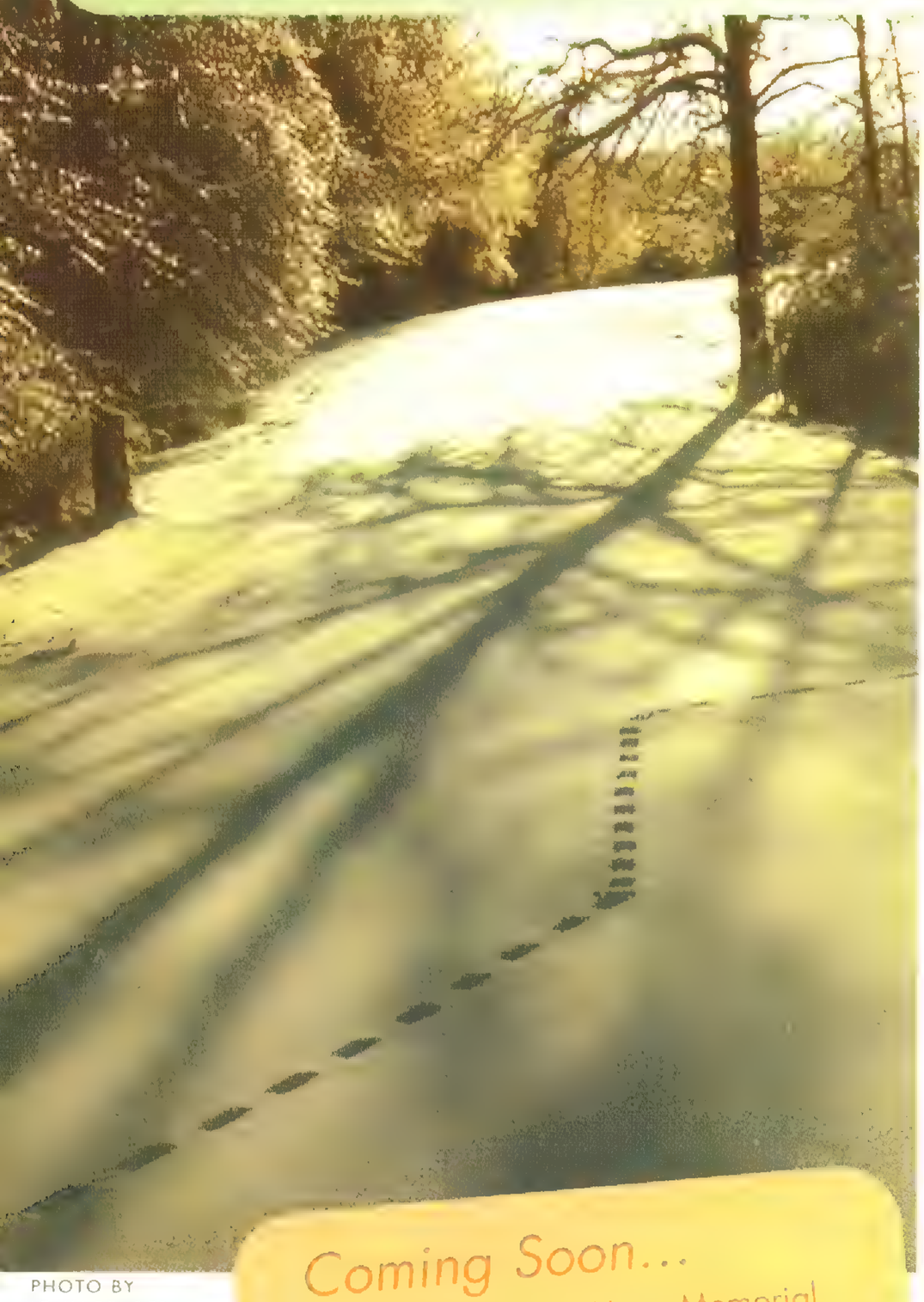


PHOTO BY JOHN BEHRER

Coming Soon...

The first annual Ernst Haas Memorial rkshop takes place at the Reserve in March. Photo ures and conducts series. Reservations required. Additiona Call (636) 451-3512 for information.

Winter Wonderland

Shaw Nature Reserve encompasses over 2,400 acres of woods, wetland, restored tallgrass prairie, and glades. In spring, the Whitmire Wildflower Garden blossoms in a five-acre riot of color and butterflies. Summer brings backpackers and school groups eager to explore and learn about ecology and native plants. Harvest Festival and Prairie Day herald fall with food, music, and family festivities. But what, you might wonder, happens at the Shaw Nature Reserve in winter?

Hiking... " Winter is a great time of year for hiking," says Jan Oberkramer, Dana Brown Overnight Education Center Coordinator at the Shaw Nature Reserve. "With the leaves off the trees, it is possible to see different features of the land. Also, there's no need to worry about ticks and chiggers. It's a good time to take a closer look at things located off the trail." With 14 miles of paths, it's possible to return to the Reserve repeatedly and see something new each time. February is American Heart Month and hiking and walking are recommended activities for heart fitness, so go take a hike!

*Birding...*Winter birding at Shaw Nature Reserve brings newcomers, as well as reveals otherwise difficult to spot birds. Bluebirds, for example, stay year-round, but are especially conspicuous in winter. "Several species which breed in Canadian conifer forests overwinter here," notes Restoration Biologist Dr. James Trager. You might spy ruby-crowned kinglets, yellow-rumped warblers, juncos, white winged crossbills, pine siskins, and white-throated-, fox- and American tree sparrows. It is also not uncommon to see bald eagles and northern harriers flying over the prairie, the latter, often mere inches over the waving tops of the grasses as they search for mice.

Photographing..."January is one of my favorite times of year at the Reserve," says Stewart Halperin, noted St. Louis photographer. "The powerful graphics of the trees without their leaves and decaying flora remind you of the power and beauty of all phases in the natural life cycle." Winter light is crisp and brilliant, perfectly suited for photography of the natural world. January and February are prime time to capture tree silhouettes, glorious sunrises and sunsets, frost and ice on prairie plant seed heads, etc. Whether you just received a new digital camera for Christmas, or you're a life-long shutterbug, the Nature Reserve is place to get shooting this winter.

*And when it snows...*cross-country skiing and snow-shoeing are always a hit with the athletic set, and kids love to follow the many animal tracks made visible in the snow.

Share the Wonders of Nature

Do you love the outdoors? Would you enjoy working with interesting, creative people in a beautiful setting while learning more about the natural world? Are you interested in creating positive experiences for school children? If you answered "yes" to these questions, then you might make a great Teacher-Naturalist and the Reserve is recruiting volunteers.

Teacher-Naturalists lead children of all ages in outdoor classes that focus on sensory awareness and ecology. People seeking this position must enjoy working with children in an outdoor setting, be available during the week, and possess a keen interest in learning more about natural history. A training program for new Teacher-Naturalists will begin in September 2003. For more information call Denice Wellbrock at (636) 451-3512.

PHOTO BY JOHN BEHRER

Shaw Nature Reserve

Established by the Missouri Botanical Garden in 1925, the Shaw Nature Reserve is in Gray Summit, MO, 35 miles west of St. Louis on I-44 (Gray Summit exit 253). In addition to the Whitmire Wildflower Garden, the 2,400-acre reserve is also home to the restored Bascom House (1879) and 14 miles of hiking trails. Grounds are open daily 7 a.m. to one-half hour past sunset. For information, call (636) 451-3512.

Butterfly House

Cleaning House

The Butterfly House will be closed Tuesday, January 28, to Friday, January 31, for annual maintenance

Bugs, Bugs Everywhere

Throughout 2003, the Sophia M. Sachs Butterfly House will bring you a whole host of arthropods! Running the gamut from beetles to mantids to caterpillars to arachnids, this other world's series kicks off Saturday, February 1, as we welcome the incredible ROACH.

These amazing *detritivores* (i.e., garbage eaters) provide a valuable service by breaking down organic material to create new and healthy dirt. There are over 5,000 species of roaches in the world; the world's largest lives in South America and is almost 5 inches long with an 8 inch wingspan! Roaches are known to be survivors—some can make it for almost a month without food!

Most roaches are tropical, but they manage to live all over the world. How's that? They move in with humans! Young cockroaches need only a crack as thin as a dime to squeeze through. And good luck squishing them: they smell you coming a mile away. Roaches can run up to 35 times their own body length in 1 second! This is the equivalent of a 6-foot sprinter running 157 miles per hour. Roaches can also climb straight up a wall or window to escape with a special set of little claws on their feet. And they can live without fresh air for almost 40 minutes!

With hands-on activities, games and displays, you'll learn all about these amazing beasties and witness them in action at the Butterfly House this February and March.

Join us for an in-depth look at these amazing animals, you might even get the chance to hold and examine a real, live roach! **Sat., Feb. 22, 2–3 p.m.**

On **Sat., Mar. 8, 9:30 a.m.** Bring the kids and your open mind. We will delve deep into the secret life of the roach. They don't all raid your fridge! Focus will be on the real role that roaches play in the ecosystem.

Next up in April-May? Our armored buddies, beetles!

Above: Blaberus gigantea.

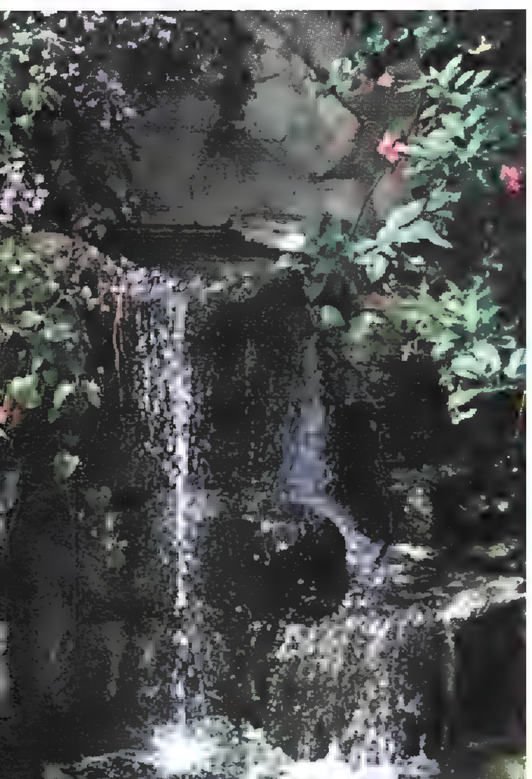
Butterfly House

A division of the Garden since 2001, the Sophia M. Sachs Butterfly House features butterflies in free flight inside a glass conservatory as well as outdoor habitats. Located in Faust Park, Chesterfield, MO, the Butterfly House is open daily 9 a.m. to 4 p.m. (5 p.m. in summer). For information, call (636) 530-0076.

Kids Love Bugs

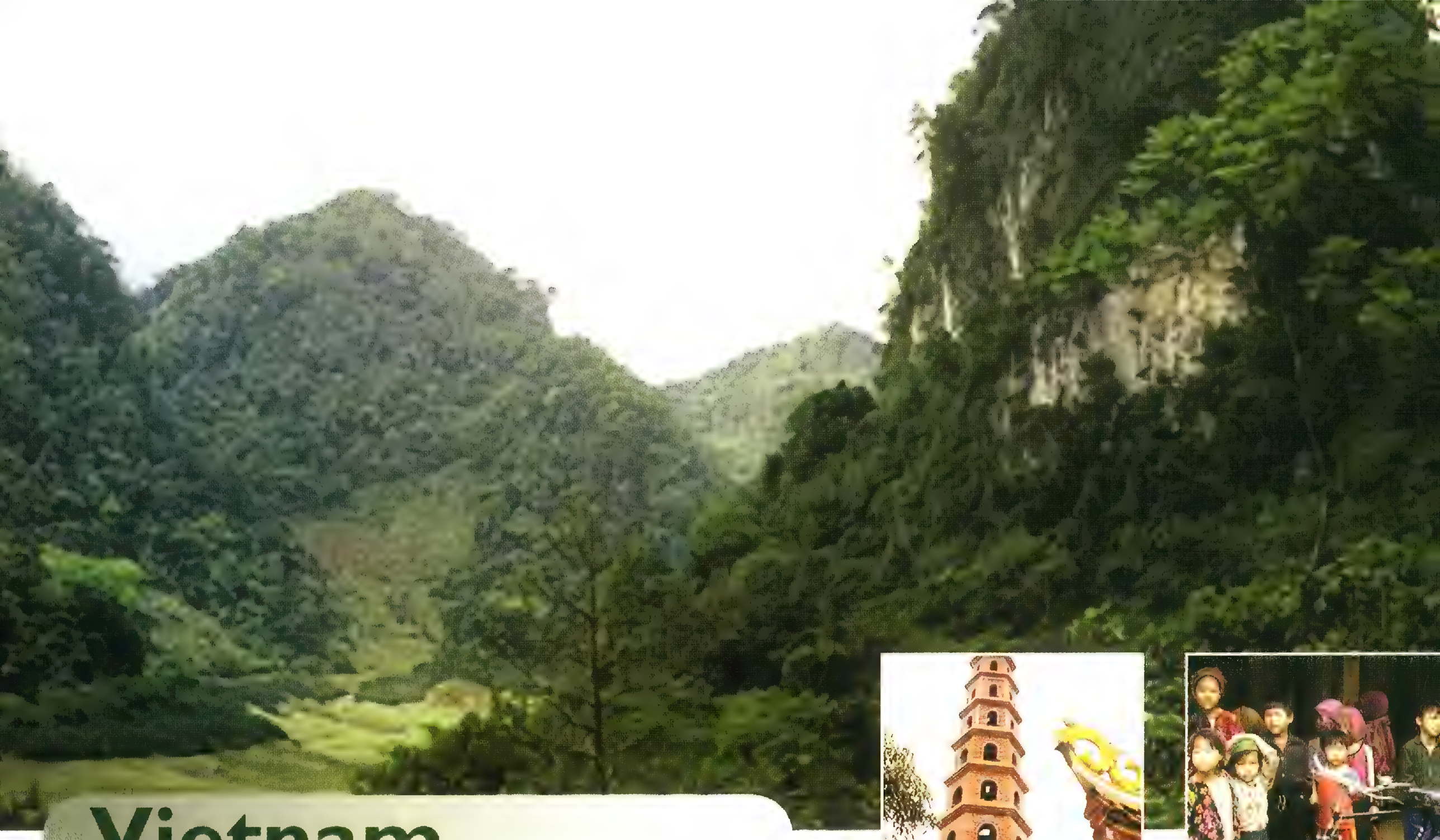
The Butterfly House features all kinds of fun for kids of all ages. **Craft Saturdays:** On the first and third Saturday of every month, included with admission is a bug- or butterfly-related craft project. Make your own giant foam dragonfly or create a beaded keychain or necklace inspired by butterfly wings.

There's also the Butterfly House's education website: **www.butterflyschool.org**. Learn all about the Junior Entomologist Society of St. Louis (**JESSL**), a group especially for students aged 8–16 who enjoy insects and want to learn more about them. The website also features several great family activities to download and bring with you to the Butterfly House, like the **scavenger hunt**, scientific illustration activity, ethnograms, and more. Winter is the perfect time to enjoy the sunny tropics at the Butterfly House for some educational family fun.



Beat those Winter Blues!

The Sophia M. Sachs Butterfly House features a tropical rain forest and waterfall inside its 8,000 square foot conservatory, not to mention over 1,000 gorgeous tropical butterflies in free flight. When you need to go someplace warm and sunny, lush and tropical, your respite might be as close as Faust Park. Visit the Butterfly House this winter.



Vietnam

It is called, in the Vietnamese language, *doi moi*, meaning "renovation," and since its introduction in 1986, Vietnam has witnessed a series of wide-ranging economic reforms. For years, Vietnam suffered from the ravages of war, the loss of financial support from the old Soviet Bloc, and the rigidities of a centrally planned economy. Today, living standards have improved in this once desperately poor and densely populated nation. However, the country's rapid opening of an international market economy has had disastrous effects on the environment. Deforestation, illegal timber trade, and wildlife trafficking in Vietnam have become serious concerns to a worldwide community of scientists, but awareness of environmental issues is not yet widespread among the Vietnamese people.

In the midst of forest destruction, a number of new species are still being discovered in Vietnam, and it's a race against time.

In 1998, with support from the National Science Foundation, the Missouri Botanical Garden established the Vietnam Botanical Conservation Program and opened an office in Hanoi headed by Dr. Dan Harder. The goal of MBG's program in Vietnam is to revitalize study of the country's flora and strengthen the capacity of Vietnamese institutions, scientists, and conservationists to manage the country's biological resources in a sustainable manner. To this end, the Garden is actively involved in improvement to infrastructure and in-country training programs.

In January 2002, Dr. Jack Regalado succeeded Harder as the MBG resident botanist in Vietnam, and is the new coordinator of the Integrated Conservation and Training Program (ICTP) supported by the Henry Luce Foundation. The ICTP will disseminate information and demonstrate techniques for conservation and sustainable use of biodiversity. One such program took place in June 2002 at the Na Hang Nature Reserve, 180 miles from Hanoi. Garden staff and partner organizations trained park rangers from protected areas and national parks, technical staff from Vietnamese institutions, and university students in field collection, GPS data recording, plant identification, and curatorial techniques.

This training comes not a moment too soon. Vietnam has a globally significant proportion of rare and endemic plants and animals. An estimated 12,000 to 15,000 plant species, representing 3.2% of the world's botanical diversity, occur in Vietnam, and nearly 20% of known plants are endemic—or native to Vietnam alone. In the midst of forest destruction, a number of new species are still being discovered in Vietnam, and it's a race against time.

In 2001, scientists from Vietnam, the Garden, the Royal Botanic Gardens, Kew, and the Komarov Botanical Institute, St. Petersburg, discovered a new genus and species of conifer (*Xanthocyparis vietnamensis*) on steep limestone ridges in a mountainous area near the Chinese border. In 2002, a new genus and species of fern (*Caobangia squamata*) was described from a collection made by a National Geographic Expedition in Cao Bang province. When scientists who described this fern could not place the affinities of this very distinctive new genus, Dr. Regalado went on an expedition to relocate the fern in its original site and collect leaf material for DNA analysis. Through molecular techniques, the true phylogenetic relationships of this fern to other members of the group can be determined.

When Dr. Regalado is not collecting in the field or training conservation personnel, he oversees the day-to-day operations of the Garden's office in Hanoi. We caught up with him there on the eve of his one-year anniversary in Vietnam and before he departs to conduct another training course running December 19–30.

"Since Christmas is not celebrated here, business goes on as usual," laughs Regalado. "I guess I'll be singing Christmas carols in the Ba Be National Park."

Vanilla albida

Orchids in Vietnam

from Professor Leonid Averyanov

Vietnam is a very important center of orchid diversity and uniqueness in Southeast Asia. Orchids in Vietnam are so rich and diverse. According to an updated checklist, 897 species classified in 151 genera are found in Vietnam. However, it is estimated that the total number of species may be much higher than it is presently known, perhaps over 1,000. The most interesting and important discoveries to the orchid flora of Vietnam should be expected from new exploratory fieldwork being conducted by Garden botanists and collaborators in the mountainous regions along western and northern borders of the country.

The largest orchid genera in Vietnam are *Dendrobium, Bulbophyllum, Eria, Liparis, Habenaria, Oberonia, Coelogyne, Cymbidium, Calanthe,* and *Cleisostoma.* Among the most interesting recent discoveries new to science are *Paphiopedilum* x *aspersum, P. barbigerum* var. *lockianum, P. hangianum, P. tranlienianum, P. vietnamense, Renanthera citrina, R. vietnamensis,* and *Vietorchis aurea.* All these species are local endemics—i.e., species found only in Vietnam—native to ancient rocky limestone mountains in northern Vietnam. Most of them have great horticultural interest, but may become extinct quickly due to wide commercial exploitation.

Vietnam is still a place of mystery and sadness to most Americans. Does the legacy of the war affect your work in Vietnam?

"I'd have to say no. The Vietnamese do not talk openly about the war; to them it is just one war in a long history of wars against foreign invaders. When the U.S. embargo was lifted and U.S.-Vietnam relations normalized, the Vietnamese and Americans became allies in revitalizing the economy."

What has been the biggest challenge you've faced since landing in Vietnam?

"Well, personally, learning to speak the language. Vietnamese is a tonal language; one word can mean six different things depending on the inflection!" Jack is fluent in Tagalog (Philippine language) and English, and studied Spanish, French, and German, but Vietnamese is nothing like European languages. "Learning to speak the language helps break down barriers and make new friends. It also helps in getting good prices when shopping."

Did you experience culture shock?

"Yes! In Vietnamese, the pronouns vary according to age, sex, social position, level of intimacy, and close or distant relationship. This is why, upon first meeting you, the Vietnamese will ask your age, marital status, family life, and even salary—things that Westerners find very intrusive."

What have you enjoyed most?

"The sincere friendship of people. Everyone is ready to help you in times of need, laugh in times of joy, and cry in times of sorrow. They say that 'America makes big buildings, but Vietnam makes long-lasting friendships.'"

Your thoughts on the future?

"Now is an exciting time to be in Vietnam when the country is experiencing social change and increased economic prosperity as a result of *doi moi*. It is exciting to be involved in the discovery of new species, but even more rewarding to help catalog and protect the beautiful natural resources of this country."

Opposite: vista of Thang Hen district in North Vietnam.

Insets from opposite left: temple in Hanoi; children from Sin Suoi Ho School in Ha Giang, North Vietnam; a Vietnamese Jack-in-the-Pulpit, Arisaema *sp. nov.* (DKH 5032) Bat Dai Son; *mushrooms in the Thang Hen district.*

Above right: Dr. Jack Regalado.

ARTWORK BY BRYAN RECKAMP

Charting Change

The fossil seed shown in the figure is *Acer* (maple) and it is about 15 million years old. Associated with it in the same collection are *Betula* (birch), *Castanea* (chestnut), *Fagus* (beech), *Ulmus* (elm), and others. The fossil flora clearly represents a rich, deciduous hardwood forest. It came, however, from the southeastern corner of Oregon that today is an arid sagebrush desert. Also present were *Ginkgo*, *Metasequoia* (dawn redwood), and others that are native to eastern Asia and are not found in the native forests of North America today. (Both can be seen on Garden grounds.) The explanation for the vast change in the vegetation involves, in part, the uplift of the coastal mountains that blocked moisture from off the Pacific Ocean.

Dr. Alan Graham in his office.

Plant Psychic

paleobotany, n.: a branch of botany dealing with fossil plants

palynology, n.: a branch of science dealing with pollen and spores

Alan Graham stands before a wall of shiny red-varnished boxes, rows and rows of them. "Pollen slides," he says nonchalantly. In fact, his collection is one of the largest such references in the world, representing over 25,000 species and truly unique in its coverage of tropical plants. "I use them to study plant relationships and identify fossil plants."

In September 2002, Dr. Graham retired from Kent State University to continue his research as the Garden's first paleobotanist, or student of fossil plants. He is also an expert in palynology, the study of pollen and spores as it relates to plant taxonomy and vegetational history. In essence, Graham studies the plant past, where things grew when. But why does it matter? Turns out, in this world of fossil fuels and greenhouse gases, it matters quite a bit.

"As you build an inventory of plant fossils, you can then determine ecological conditions that must have prevailed in the past," explains Graham. "If you can determine trends and patterns in past vegetational changes, you can attribute them to climatic changes. By identifying those in the immediate past, you're in a position to anticipate future patterns."

It's called "hindcasting," and it's why different government agencies are paying attention to paleobotanical work. Governments have long supported research into long-term climatic change that involves, in part, linked computers of massive memory and incredible speed (10 billion calculations per second). Information, such as a continued increase in atmospheric carbon dioxide concentration, or complete removal of the tropical rain forest, is fed into these computers, and the computer is asked to calculate the effects on global climates. But how can the reliability of these predictions be tested?

Here's where hindcasting comes in. Information is entered on past environmental conditions, such as carbon dioxide concentrations as preserved in ancient air bubbles in amber or in Greenland and Antarctic ice, and the computer is asked to estimate the paleoclimate. Fossils from the region are examined, and if they reflect the same type of climate as predicted, greater confidence can be placed in the ability of the computer to forecast because it has accurately hindcasted. Fossil plants now provide much of the information used to test the reliability of computer-generated estimates of global climate change.

"A deeper understanding and respect for living things comes from the realization that each existing species is a product of thousands to millions of years of interaction between the organisms and with the environment," says Graham. "The world's great ecosystems are immensely complex and we need every technique in the investigative arsenal to understand how they are composed, how they evolved, how they can best be conserved and utilized, and what is likely to be their future."

PHOTO BY ELIZABETH MCNULTY

Good Deeds Welcome Here

When 22-year veteran Jeanne McGilligan retired last June, Jackie Juras had a tall order to fill upon becoming the new Manager of Volunteer Programs. "It was pretty overwhelming following in Jeanne's footsteps," says Juras. "She knew everyone! And even though I'd worked with her for several years, it was still a challenge to earn everyone's trust."

Having worked previously as a housing resource coordinator for Catholic Charities, Juras came to the Garden in 1997 and now coordinates the talents of over 1,300 volunteers. "Getting to know the volunteers has been the biggest pleasure," says Juras. "There are so many, and they are all so glad to be here. When I thank them for all they do for the Garden, they thank me back! It's really wonderful."

Over the course of the year, Juras cites her major challenge as a drive to update the database. "With over 1,300 volunteers, record-keeping is essential," says Juras. Updating the technology will allow better recognition of the Garden's many long-time volunteers. "We want to make sure everyone gets recognized for their service. We have so many volunteers who have been here for 10, 20, 30 years... It's really inspiring. "

Jackie grew up on the Hill and still lives in the Garden neighborhood. She has one child in college in Texas and one living in California.

Ring in the New: Volunteer!

Make a difference again. By being a Member of the Garden, you are already making a difference with your financial contribution. By becoming a volunteer, you can make a difference again—with the contribution of your time. You will find a wide variety of opportunities available in almost every area of the Garden. For more information about volunteer service, call Jackie at (314) 577-5187 or email jackie.juras@mobot.org.

On December 10, the Garden honored centenarian and long-time Garden volunteer Katherine Chambers with a party in Spink Pavilion. Chambers, who turned 100 in November, has been a volunteer at the Garden since 1978, when she first joined the Garden Guides (now Docents). She was presented with a nameplate dedication to be placed in a rare book in the Garden's library.

Making History with the Volunteer Program

Next year marks the 30th anniversary of the Garden's formal volunteer program, and the Garden intends to celebrate the rich history of the volunteers and their accomplishments, to honor and thank them, by capturing the history of this remarkable period before it is lost.

Today the Volunteer Programs office keeps detailed records of the volunteers and their many contributions, but that hasn't always been the case. Manager of Volunteer Programs Jackie Juras is spearheading the effort to record the unwritten history. "Generous citizens have been donating their time to the Garden for many years," says Jackie, "But we don't know necessarily for how long or in what ways."

To initiate the process, the Garden is conducting a series of oral interviews with veteran volunteers and staff in every Garden department to record their knowledge of the volunteer prorgram. But much of the story of the earlier volunteer efforts resides in the memories of the many men and women who contributed their time and skills. Did you or someone you know volunteer at the Garden 30 years ago or longer? Do you have an award, a picture or memento, an anecdote related to your volunteer service you'd like to share? Or would you like to volunteer to participate in the research and writing of the volunteer history? Please call Jackie at (314) 577-5187 or email jackie.juras@mobot.org.

Above: then division director Kenneth Peck meets with volunteers and staff of the Education Department in 1968.

tributes

SEPTEMBER–OCTOBER 2002

For information on making a gift to the Tribute Fund, please call the Development Office at (314) 577-5120.

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By leaving a bequest to the Garden, you create a legacy that will benefit others for generations to come. If you have already included the Garden in your estate plans, we hope that you will share this information with us. We would like to express our gratitude and welcome you into the Heritage Society. Of course, your wishes for anonymity are respected.

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the shop at the Garden

4344 Shaw Boulevard
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Open daily 9 a.m. to 5:30 p.m.
All proceeds benefit the Garden.

Fruits of the Vine... wine and grape-themed ceramic tableware is individually hand-painted and crated for gift-giving or charming display. Placemats and matching pillows crafted in the mountains of North Carolina make a stylish accompaniment to a wine tasting or nice dinner at home. Picnic baskets with a vineyard theme are hand crafted and designed to be functional as well as romantic. To complete an elegant gift, fill your basket with an assortment of our gourmet private-label food. Members receive an additional 20% off all Fruits of the Vine merchandise February 13–16.

Special offers and events!

Friday, Jan 3
Closed for inventory.

Mon.–Tues, Jan 6–7
Closed for cleaning.

Sat., Jan. 11
StoryTime, 11 a.m.

Fri. to Sun., Jan 17–19
Members' Day Book Fair. Get an early start on planning your garden when Members receive 20% off all books all weekend. Food tasting, 1 to 4 p.m. all three days.

Feb. 1 to Mar. 16
Orchid show, Members receive a free gift with purchase (while supplies last).

Sat., Feb. 8
StoryTime, 11 a.m.

Thurs.–Sun., Feb.13–16
Members' Day. The Shop features Fruits of the Vine, Members receive 20% off all grape-related merchandise all weekend.

Thurs., Feb. 13
Members' Day. The Shop features wine, food, and chocolate tasting. 12 to 2 p.m. Don't miss out on your chance to win a dinner for two.

Sat., Feb. 15
The Shop again features wine, food, and chocolate tasting. 12 to 2 p.m. Don't miss out on your chance to win a dinner for two.

Sat., Feb. 22
Food tasting, 1 to 4 p.m.

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engraved clay bricks

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Remains of a Rainbow

Do Your Photos Look This Good?

Lush and vibrant, the volcanic islands of Hawaii are home to hundreds of species found nowhere else on Earth: the rare animals and plants celebrated in the glorious book Remains of a Rainbow. *Photographers David Liittschwager and Susan Middleton visit the Garden March 19–20 to lecture, sign books, and teach a master photography class. In the month of February, the Garden is sponsoring a botanical photography competition; winners will receive a lunch with the authors. See the Garden website for details.*

No purchase necessary. Void where prohibited by law. Terms of the contest are governed by official rules. See official rules for details. A copy of the official rules may be obtained on the website www.mobot.org, by calling (314) 577-0254, or by writing to the Garden's Communications Division, P.O. Box 299, St. Louis, MO 63166.

Hours
The Garden is open every day except Christmas, 9 a.m. to 5 p.m. Extended summer hours are on Wednesday evening for 2003. Parking is free.

Admission
- Free for Members
- General admission is $7
  $3 for St. Louis City/County (ZMD) residents.
- Senior admission (65+) is $5
  $1.50 for St. Louis City/County (ZMD) residents.
- Children age 12 and under—free.
- Garden admission is free to St. Louis City/County (ZMD) residents until noon every Wednesday and Saturday throughout the year, (except during Japanese Festival and Best of Missouri Market).
- Special events may require an additional fee.

General Information
For 24-hour, pre-recorded information, call (314) 577-9400. Outside the (314) area code, call toll free 1-800-642-8842.

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Missouri Botanical Garden

Bulletin

March/April 2003 Vol. LXXXXi, No. 2

what's inside...

springtime at the Garden
bulb-ology • dirt • Arbor Day
eco-restoration • beetle-mania
Earth Day • photography
GIS mapping • Costa Rica
and more...

To discover and share knowledge
about plants and their environment,
in order to preserve and enrich life.

–mission of the Missouri Botanical Garden

from the director...

Spring brings with it extraordinary gifts: the thousands of daffodils and the rebirth of the Whitmire Wildflower Garden at the Shaw Nature Reserve, the glistening white and red redbud blossoms through the snow there and at the Garden where the rhododendrons, beds of pansies, and other early bloomers are showing their new clothes.

This spring the Garden launches a powerful new online resource for home gardeners everywhere. Developed by Glenn Kopp, the Adult Education Coordinator, and Alan Stentz, volunteer master gardener, PlantFinder enables the user to identify a plant's common and scientific names, as well as locate it in one of the Kemper Center's 23 demonstration gardens. Or the user can enter the characteristics desired and PlantFinder will generate a list of recommended plants that fit the bill. Go to the Gardening Help section of the Garden's website (www.mobot.org) to try it out while making your garden plans this spring.

Great thanks are due to outgoing Members' Board President Susie Schulte for her three years of dedicated, enthusiastic service. She served a year beyond the usual term, never flagging in her commitment. We are very grateful. Congratulations and welcome to Marsha Rusnack, the new President. Marsha and the other members make possible the many contributions the Garden makes to the St. Louis community and to the larger society, and I look forward to working closely with the new officers.

A towering figure of strength and support for the Garden has passed away. Robert Brookings Smith devoted his life to enhancing the world we share through his commitment to the discovery of knowledge, education, and preservation of the environment. A Trustee of the Garden since 1952, Robert served as President from 1958 to 1962. To his energetic leadership and unshakable belief in biodiversity, we owe much of the Garden's current international acclaim and pioneering research programs. He will be deeply missed throughout the Garden community, St. Louis, and the world, which he did so much to preserve and protect.

Finally, as many of you know, Tower Grove House will be closed for reinterpretation until 2004. Based on a study by consultants on a National Endowment for the Humanities grant, our volunteer groups—the Tower Grove House Historical Committee and the Tower Grove House Auxiliary—have recommended a plan incorporating more display and exhibition space. Our hope is that these groups will remain active and that our Docents will continue their work in other areas of the Garden until the reinterpretation is complete.

Spring is the time of rebirth, nature displayed in all its splendor at the Garden, the Shaw Nature Reserve, and the Sophia M. Sachs Butterfly House. You—the volunteers, members, and good-will ambassadors of the Garden—make the public enjoyment of this institution possible. I am very grateful.

Peter H. Raven

Peter H. Raven, *Director*

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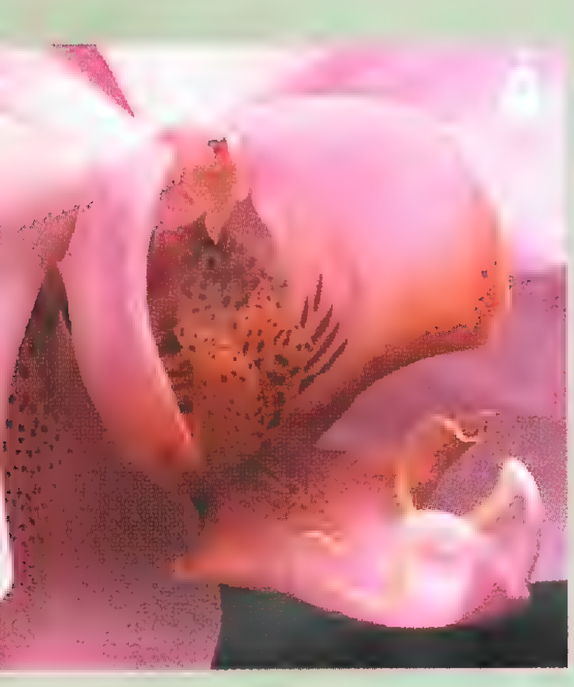
Missouri Botanical Garden



editor's note...

Rejoice: it's spring. It's March and the season for regeneration and renewal is almost upon us. Snowdrops, following a series of mild days in late winter, peek through the ivy around Shaw's Mausoleum, a poignant reminder of the cycle of life. The world's best-fed birds of all varieties (ducks, quail, robins—even turkeys upon occasion!), fattened from living the good life on Garden grounds, waddle out of their nests with two to three progeny trailing after. The Kemper Center's adult education course guide shows up in the mailbox, along with seed catalogs, vacation flyers, and ads for lawn-care services. It's spring, and with the returning of the green comes a desire to live life to the fullest—to experience beauty and music and health and peace—and that's what springtime at the Garden is all about. Well that, and getting your garden in order. Go to ogle the gorgeous orchids of the "Enchanted Forest" with your kids, or get your soil "prescription" for better veggies at the Dirt Festival. Experience the harmony of gentle movement on T'ai Chi Day, or snoop around the bulb displays for design ideas from the experts. Whether you're capturing on film the beauty of one perfect dew-drenched tulip, or of your child scrambling for a goodie in our annual egg hunt, the Garden is the place to be this spring.

Elizabeth McNulty, editor
elizabeth.mcnulty@mobot.org

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springtime at the Garden

Enchanted Forest Orchid Show continues

Don't miss the last few weeks of the 2003 Orchid Show. The fairy dolls of the "Enchanted Forest" delight children, while the adults marvel at the Garden's award-winning collection of rare and exotic orchids. If you haven't seen it yet, this is your once-a-year chance to check out a local treasure—the Garden's orchid collection, part of which dates back over a century. Garden staff and volunteers prep all year for this event, manipulating temperatures in the orchid range in order to force blooming early or hold blooms back, all for the greater glory of the show. And it bears repeating: if you've already seen the "Enchanted Forest," come back again and bring a friend—the display changes from week to week as fresh plants replace spent blooms, and Garden horticulturalist and orchid specialist Blanche Wagner always sneaks in a few oddities along the way. "I try to get as much diversity in the show as possible," says Wagner, "And the last few weeks get a little crazy." Open daily from 9 a.m. to 5 p.m. in the Orthwein Floral Display Hall, the Orchid show is free to members and closes Sunday, March 16.

Music

Now in its 16th season, Classic 99's "From the Garden, Live®" concert series is expanding this year due to popular demand. Previously on Sundays in April, the 2003 series will run on Sundays from March 30 to May 4. Concerts are performed in the Garden's Shoenberg Auditorium and broadcast live on KFUO–99.1 FM. Performers this year represent a diverse selection, including the musical political satire of the Capitol Steps, local favorites from Opera Theatre St. Louis, as well as traditional classical artists. Performances are free, but tickets are required. See the Calendar section for dates, artists performing, and ticketing details.

T'ai Chi

Saturday, April 12, is World T'ai Chi and Quigong Day. These ancient Chinese arts have been used for centuries to channel the body's inner force called "chi" to enhance vitality and promote self-healing. In the natural beauty of the Garden, participants develop a higher sense of awareness, relaxation, and inner vitality. The focus on gentle movement and relaxation makes it suitable for young and old alike. On World T'ai Chi Day, practioners from all over the St. Louis area turn out to demonstrate this graceful art in a spectacular setting. Visitors are invited to participate as well. 10 a.m. to 1 p.m. Outdoors, weather permitting.

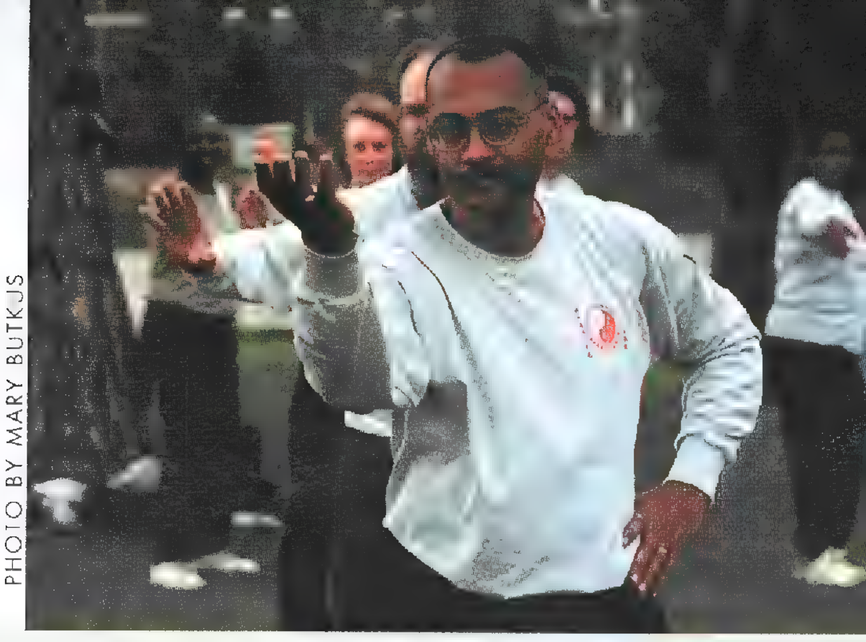


PHOTO BY MARY BUTKUS

earth day

Earth Day at the Garden

Earth Day comes but once a year (April 22), but the festivities take place over several days. The 2003 St. Louis Earth Day theme is "Passport to a Healthy Planet" with a focus on the health and healing of both the planet and the humans who inhabit it. The city festival will be on Sunday, April 27, in Forest Park, but there are many scheduled "Earth Day Around Town" activities. On Saturday, April 26, the Garden hosts demonstrations and displays by Earth Share of Missouri environmental organizations. Learn what you can do to ensure a healthy future for the planet with the Garden's Eco-Adventures program. Also three special behind-the-scenes greenhouse tours will be available. Tours depart the Ridgway Center at 10 a.m., noon, and 2 p.m. and are limited to 20 people per tour, first come, first served. Free for members. Visit www.stlouisearthday.org for more information.

Earth Day at the Garden
Sat., Apr. 26, 10 a.m. to 3 p.m.
Spoehrer Plaza

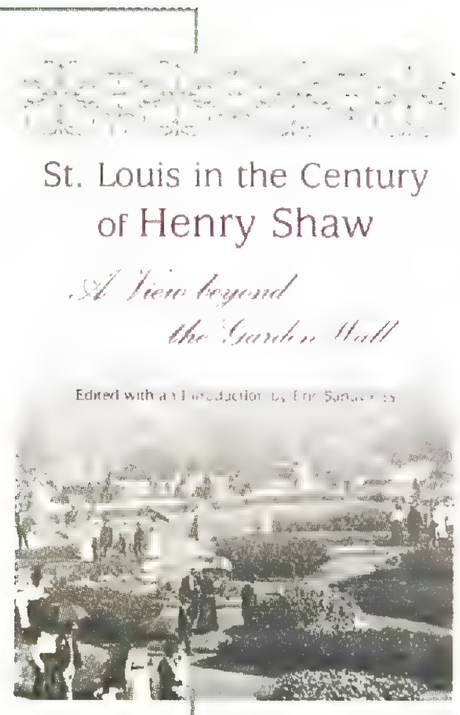
Earth Day Symposium

On Tuesday, April 22, the Garden hosts the third annual St. Louis Earth Day Symposium. This year's conference is on "Clean Water, Livable Cities," and will highlight national, regional, and local models of urban watershed management. Not just for officials and urban planners, architects and engineers, this conference is suitable for any citizen interested in sharing practical information on how healthy rivers and streams can thrive even in densely populated urban environments. The symposium is co-sponsored by the Garden, St. Louis Earth Day, and many other partners. Garden Director Dr. Peter Raven will give welcoming remarks. Admission includes a pre-conference watershed tour and a post-conference Missouri River barge trip. One-day conference cost: $50. For more information call (314) 421-4220, or visit www.stlouisearthday.org.

Illinois Appreciation Week: April 21–27

The St. Louis metropolitan area encompasses a significant portion of Southern Illinois, and many Illinoisans work, shop, and play on the "West Side" without receiving some of the breaks we Missourians enjoy. Well, not this April: for one glorious week during the height of beautiful springtime at the Garden, residents of the land of Lincoln will get some special treatment of their own. From Monday, April 21, through Sunday, April 27, admission for all Illinois citizens is buy one, get one free with a valid Illinois driver's license. Bring in the *Suburban Journal* coupon for an additional dollar off. In addition, during Illinois Appreciation Week, all proven Illinois residents will receive 10% off in the Garden Gate Shop and new Garden memberships at 10% off as well. Sponsored by the Garden and the *Suburban Journals*. So, members, invite your neighbors, coworkers, and friends who live in Illinois to visit the Garden and take advantage of this special offer. Cross that river and come on over to see what's in bloom in our metropolitan backyard.

Shaw's St. Louis



Philanthropist, entrepreneur, and now archetype…Garden founder Henry Shaw's life is taken as a point of departure for a new collection of essays chronicling the rise of St. Louis as a mercantile powerhouse in the 19th century. Assembled in honor of Shaw's two-hundredth birthday, *St. Louis in the Time of Henry Shaw* provides the definitive account of the cultural life of St. Louis during the 1800s, a thriving period during which the city acquired the status of westernmost major metropolis in the United States. A joint publication of the Garden, the Missouri Historical Society, and the University of Missouri Press, the book traces the life of Shaw and other immigrants who built the city we recognize today. Now available at the Garden Gate Shop, where author Eric Sandweiss will sign copies on Sunday, March 30. On Saturday, March 29, the Garden is co-sponsoring a presentation on the book and lecture by several contributors at the Missouri Historical Society Library on Skinker Boulevard.

PHOTO BY MARY BUTKUS

We don't need to egg you on: previous attendees of this special event know how truly egg-cellent it is! The Garden is a gorgeous backdrop in spring, and kids go crazy during the egg hunts and when meeting "Bunny" the Garden rabbit. Hilarity ensues and great pictures are snapped by all. Bring your cameras, videocams, kids and grandkids, and come on down. Egg hunts take place at 10:30 a.m., 11 a.m., 11:30 a.m., and noon, and do begin promptly so be sure to allow time to get to the Climatron lawn. Refreshments will be served. Reservations are required since space is limited, so call (314) 577-9500 soon.

Saturday, April 12
10 a.m. to 12:30 p.m.
Children ages 2–10
Climatron lawn
Free for members

members' days

Remains of a Rainbow

David Littschwager and Susan Middleton have established a reputation as the foremost photographers of the endangered natural world. Their book, *Remains of a Rainbow*, encompasses the spectacular array of life-forms of the Hawaiian Islands, including species either new to science or previously thought to be extinct. Join us as Susan and David present their special book in a slide presentation and lecture. A tour of the *Remains of a Rainbow* photography exhibit and a book signing follow.
See page 9 for more details.

Wed., March 19 • 11 a.m.
Shoenberg Auditorium

Gardening with Low-maintenance Perennials

Learn how successful landscape design experts use perennial plants that require little care but give high impact to your gardens. Angie Eckert of Eckert's Country Store in Belleville, Illinois, will share the best perennials for 2003, specially selected for the St. Louis area, and highlight gardening techniques that will help you achieve professional results in your own backyard. Minimal muss, minimal fuss, and years of enjoyment—get the inside scoop on these low-maintenance, high-impact beauties.

Wed., April 9 • 11 a.m.
Shoenberg Auditorium

Save the date! • Friday, May 9

Mother's Day Luncheon and Fashion Show

Bring your mother and special guest to a delightful luncheon and spring fashion show sponsored by Dillards. Seating in the outdoor tent at the Ridgway Center. Watch the mail for your special invitation.

A Garden membership makes a wonderful Mother's Day present! Receive a special gift when you give mom her membership this year. For information, call (314) 577-5118 or visit our website: www.mobot.org.

Members' Days are free and presented exclusively for Garden members and their guest. Seating is limited and is on a first-come, first-served basis. Receive free tram rides, special discounts in the Garden Gate Shop, and 10% off in the Garden Café.

PHOTOS BY DIANE WILSON

the members' board

The Members' Board held its annual meeting on January 13. Retiring members were acknowledged, new ones were introduced, and new officers were installed.

Members' Board Officers
Above from left: Van Brokaw, Corresponding Secretary; Nancy Sauerhoff, First Vice President; Marsha Rusnack, President; Debbi Flowers, Recording Secretary. Officers absent from the photo are Sally Cohn, Second Vice President; and Andy Dielmann, Treasurer.

New to the Members' Board
Seated above from left: Janet Lange and Joan Sheppard. Standing with President Marsha Rusnack (in red jacket), from left: Nancy Mills, Jane Beadles, and Terry Beachy. New board members absent from the photo are Kathleen Dudley, Sue Engelhardt, and Susan Gelman.

PHOTO COURTESY INTRAV, INC.

Anchors Away

A unique opportunity for Garden members to travel from the Pacific Northwest to the Canadian Rockies aboard the 138-passenger *Yorktown* clipper. Starting in Vancouver on October 2, join an optional excursion to explore the city. Visit Stanley Park, a thousand-acre peninsula of rain forest, or Queen Elizabeth Park where you can enjoy the floral beauty of a former rock quarry magically converted into a sunken garden. During our cruise through the San Juan Archipelago, keep watch with the onboard naturalist for orcas and the many species of birds that inhabit this area. Enjoy stops at Matia and Sucia islands. The cruise concludes in Victoria—the "city of gardens"—where you may join an optional excursion to the world-famous Butchart Gardens. An optional pre-trip via the Rocky Mountaineer train to eastern British Columbia is also available. For more information, call the membership office at (314) 577-9500.

membership benefits

Free Admission to the Garden, including the Garden Café, Shaw Nature Reserve, and EarthWays Home for two adults and all children under age 18 for one year. Discounts on admission to Garden public events.

Free Publications including the *Bulletin*, 6 issues a year filled with information and activities at the Garden, Shaw Nature Reserve, and Sophia M. Sachs Butterfly House, plus home horticulture advice from the experts at the Kemper Center for Home Gardening.

Flower Show Parties Previews of the annual holiday flower and orchid shows.

Monthly Members' Days Special programs presented exclusively for Garden members and their guests feature free tram rides, 10% off in the Garden Café, and special discounts in the Garden Gate Shop.

Discounts Members receive 10% off all purchases in the Garden Gate Shop, with annual spring, fall, and holiday sales of 20% off, plus special rates on selected educational courses.

Members' Travel Special trips explore public and private gardens around the world.

Reciprocal Admission to over 150 selected botanical gardens around the country.

Discounted Subscription Rate
for *St. Louis Homes & Lifestyles.*

photography at the garden

tips from a master

The driving force behind the Garden's widely admired annual wall calendar, master photographer Jack Jennings is a wealth of information on beautiful nature photography. In 2003, Jennings celebrates his 25th anniversary photographing the Garden; with an average of 2–3,000 images shot per year, he could surely teach any photographer a thing or two. Shooting primarily outdoors, the first hazard is the weather. "If I see a beautiful image, I will take ten pictures of it right then and select the best later," says Jennings. "You can never be absolutely certain how the film is reacting." And then there are the hazards of wildlife: Jennings recounts the time a territorial red-winged blackbird dive-bombed him in the Japanese Garden. But hazards aside, here are the top three tips for amateur photographers from the Garden master Jack Jennings.

Move in closer
"The biggest mistake that most photographers make is trying to include too much," says Jennings.

Consider different angles
"Don't just walk up and shoot. Even if the first view is lovely, sometimes the view from above or below is even more spectacular."

Get a tripod
"If you're serious about getting good pictures, you have to have one."

It's a Snap!

For a skilled photographer, taking beautiful pictures at the Garden is a snap because the Garden is such a beautiful place. The Garden has been the subject of countless photographs since opening to the public in 1859. With the advent of color film in the 20th century, beauty photography expanded dramatically, with photographers from all over the world coming to St. Louis to capture a rare orchid, a perfect spring display, or the Japanese Garden in fall. The Garden's Communications Division receives requests daily from national publications for images of specific plants or general "beauty shots." Many Garden Members are amateur photographers and enjoy whiling away an afternoon catching just the right light on the Boxwood Garden or dappled effect in the English Woodland Garden. In acknowledgement of this art so frequently practiced here, the Garden is offering a master photography week with lectures, workshops, exhibits, and visits by three distinguished photographers.

Photographer of Light and Gesture

For more than 45 years, award-winning photographer Jay Maisel has been known for his vibrant images that emphasize light, color, and gesture. His work has appeared throughout the world in advertising, editorial, and corporate communications, as well as in books and art collections. Maisel will visit the Garden to discuss his craft in a lecture on March 14 and then conduct a weekend workshop at the Shaw Nature Reserve for registered participants.

The goal of the workshop, says Maisel "is to help participants to become more keenly aware of seeing—specifically, seeing precisely what is in their own images." Maisel will show slides of his own work to illustrate the concepts of color, light, and gesture. Participants will submit their own photos for critique and questions will be encouraged. The workshop is limited to 25 participants with a serious working knowledge of photography and camera use. Advance registration is required.

Maisel's appearance is the inaugural event in a new annual series, the Ernst Haas Memorial Lecture and Workshop, presented by Shaw Nature Reserve in cooperation with Stewart Halperin Photography. Epson USA and Allied Photocolor of St. Louis provided additional support. For more information about the lecture or the weekend photography workshop, call the Shaw Nature Reserve at (636) 451-3512.

Jay Maisel lecture
Fri., Mar. 14, 8 p.m.
Ridgway Center
$12 ($8 for Garden members)

Workshop with Jay Maisel
Sat., Mar. 15, 8:30 a.m.
to Sun., Mar. 16, 1:30 p.m.
Shaw Nature Reserve
$375 ($350 for Garden members)
To register: (636) 451-3512

PHOTO BY JAY MAISEL

Photography Classes

The Adult Education division of the Garden offers classes to members at a discount, with classes on photography offered every fall and spring. Go to www.mobot.org/gardeninghelp on the web to view current course offerings.

Nature Photographic Duo

David Littschwager and Susan Middleton have been photographing endangered animals and plants since 1986. Their collaborative work has appeared in numerous books and magazines, including an Emmy Award-winning National Geographic television special. In March, they bring to the Garden their traveling exhibition of prints from their book *Remains of a Rainbow*, chronicling the rare and endangered plants and animals of the Hawaiian islands. On March 19, this duo will visit the Garden for a lecture and book signing. On the following day, they will present a hands-on morning workshop for registered participants, providing instruction in their trademark style of isolating and illuminating subjects.

The workshop is open to both amateur and professional photographers, and will begin with an illustrated presentation on equipment and techniques the photographers use to create their stunning portraits, emphasizing composition and lighting. Afterward, the class will move outdoors for a supervised shoot. Participants will focus on choosing a subject, selecting the most effective photographic technique, and exploring both artificial and natural light. Photographers should bring a camera (digital OK) with flash and the film of their choice. A tripod may be helpful in composing a photo, but it is not required.

Remains of a Rainbow exhibition
Mon., Mar. 17, to Tues., Apr. 8
Ridgway Center

Middleton and Littschwager
lecture and booksigning
Wed., Mar. 19, 11 a.m.
Ridgway Center

Morning workshop with
Middleton and Littschwager
Thurs., Mar. 20, 9 a.m. to noon
Kemper Center for Home Gardening
$100 ($75 for Garden members)
To register: (314) 577-9441

PHOTO COURTESY ABC/CRAIG SJODIN

Viewers of the ABC hit reality television show *The Bachelorette* know that star Trista Rehn is a St. Louis native. After scouting numerous St. Louis locations, producers selected the Missouri Botanical Garden as the venue for one of her two final dates. The event was shot on Friday, November 8, 2002, long before the series debuted, but in typical reality-tv style, we were sworn to secrecy. "They practically made us sign in blood not to tell!" laughs Peggy Lents, Director of Communications.

On February 19, over 20 million viewers across America tuned in for the series finale and saw footage of the Garden as Trista and Charlie strolled around *Seiwa-en* and canoodled on Tea House Island. "They brought a crew of almost 20 people. Can you imagine having a date with 20 people watching?" says PR Coordinator Lisa Brandon.

Despite the Garden's *Riverfront Times* rating as one of the best St. Louis locales for a romantic date, it looks like Trista and Charlie won't be entering next year's "Love in Bloom" contest: she dumped him for rival suitor Ryan in the show's final minutes.

If you missed it this time around, check your cable listings for the ABC Family channel, which will rebroadcast the series this spring.

at the Garden

Tower Grove House Plans

Every January, the Tower Grove House closes for cleaning and repairs. This year, however, it will remain closed 18 to 24 months for reinterpretation. In September 2001, the National Endowment for the Humanities awarded a Museum Consultation Grant to the Garden to review Tower Grove House. Based on the results of that study, the two volunteer organizations most integrally connected with the house—the Tower Grove House Historical Committee and the Tower Grove House Auxiliary—recommended adoption of a new interpretive plan, one that will preserve Henry Shaw's original 1851 country home as he lived in it, but re-evaluate the 1889 Trelease addition with an eye toward exhibit and display. Dr. Luther Williams, William T. Kemper Director of Education and Interpretation, has been developing a proposal to implement these recommendations. In the meantime, the Historical Committee and the Auxiliary will continue their meetings and activities and Docents will be offered training in other areas. Look for *Bulletin* progress reports periodically as reinterpretation continues.

PHOTO BY DIANE WILSON

Above from left: Ellen Harris, Dr. Patricia Raven, Bob Clay, and Elaine Grant.

"Love in Bloom" Contest Winner

A panel of celebrity judges has selected Bob Clay of St. Charles as the Garden's first annual "Love in Bloom" contest winner for his memories of summer Sundays spent at "Shaw's Garden" long ago with the woman he eventually married. The contest was judged by Elaine Grant, editor of *St. Louis* magazine; Tim Ezell, KTVI-TV Fox 2 News reporter; and Ellen Harris, a local St. Louis author and adjunct Washington University instructor. Dr. Patricia Raven, wife of Director Dr. Peter H. Raven, presented the first place prize in the Linnean House conservatory on behalf of the Garden on Feb. 12.

The winner received a weekend getaway at the Marriott Pavilion Hotel in downtown St. Louis; a dozen roses from Schnucks floral department; a one-year Garden membership; a gift basket of Garden Gate Shop merchandise; and lunch in the Garden Café. Stories by the winning writer and four finalists are posted online on the Garden's website, www.mobot.org.

America's Top 10 Gardens

The April edition of *Country Living Gardener* magazine names the Missouri Botanical Garden one of the top ten gardens in America. "While children delight in a maze fashioned from eight-foot-tall hedges of yew and arborvitae," the reporter enthused, "older gardeners gather ideas from the 23 residential-sized gardens that make up the [Kemper] Center for Home Gardening…." Selected as an example of one of "our most precious national treasures," the Garden was praised for the Victorian area, the *Seiwa-en* Japanese garden, as well as for our fantastic perennial displays. "The 79-acre MBG is the place to go to see hostas, roses, iris, and daylilies…." Editor of *Gardener* Diana Murphy encouraged her readers to visit the Garden often "to glean ideas, behold a spectacular array of plants, and find a welcome escape close to home." We couldn't agree more. There's always something new to discover at the Garden.

Corporate Partners

The Corporate Partners program strengthens the relationship between the Garden and the corporate community in the metropolitan region. Become a Corporate Partner today! For information, call Jamie at (314) 577-9513. We are pleased to recognize corporations who have recently joined, renewed, or upgraded their Corporate Partner membership.

Supporter level ($1,000)
Sansone Group
Mallinckrodt, Inc

Principal Level ($25,000)
Monsanto

Robert Brookings Smith

A towering oak in the Garden's history has passed away. Robert Brookings Smith died Monday, December 30, 2002. He was 99 years old.

A descendent of Robert S. Brookings, co-founder of Washington University, Smith continued in the tradition of his ancestors: giving generously to local institutions that advance the environment, the arts, and education. In addition to his career in investment banking, Smith served as president of the Garden's Board of Trustees from 1958 to 1962, a period crucial to the Garden's survival.

"As President, he took up the ideas of [Garden Director] Frits Went in building the Climatron here, a move that essentially brought the Garden back to life," says Dr. Peter Raven, Director of the Missouri Botanical Garden. As Board President, Smith was instrumental in the creation of another public favorite, the All-America Rose Test Garden, as well as in the first renovation of Tower Grove House. He received the Garden's highest honor, the Henry Shaw Medal, for his achievements.

Smith continued to support the Garden throughout the years as Trustee, establishing the Fund for Tropical Botany, collaborating on the Brookings Interpretive Center, and helping found the Center for Conservation and Sustainable Development. His vision, dedication, and friendship will be greatly missed by all who knew him and the greater community. The Garden Trustees have passed a resolution honoring this unique individual.

1. New Gazebo

Last June, the Garden dedicated a beautiful new gazebo in the English Woodland Garden in memory of long-time Trustee and friend of the Garden Tom K. Smith. A Garden Trustee for 33 years, Smith was President of the Board from 1975 to 1981, a period distinguished by the creation of the English Woodland Garden, the dedication of the Japanese Garden, and the construction of the Ridgway Center. Pictured from left: Mrs. Tom K. Smith, Ted and Sally Swartz and their children Tommy and Sam.

2. Need a Lift?

This winter the Garden achieved another goal in the drive for greater accessibility. Made possible by a gift from Janet and Ivis Johnston, the new hydraulic wheelchair lift will allow accessibility for everyone to the Shoenberg Auditorium, a venue where the Garden regularly hosts lectures, classes, and event programs. Easy to operate, the lift is located on the right-hand side when you enter the auditorium and enables access to the stage, dressing rooms, and front row of seating. Don't be shy if you need a lift—just ask!

3. New Fountain and Arbor

The next time you're walking through the scented garden, check out the new fountain entitled *Poppies for Polky* in honor of long-time friend of the Garden W. Julius Polk, Jr. Set in a green glass Italian mosaic is a bronze bas-relief by Polk's niece, noted artist Kate Dunn Smith. "We chose Indian Chief poppies for the subject of this fountain," says Smith, "Because Uncle Polky is our family chief." The arbor around it will create a shady refuge in summer for visitors to linger and enjoy the fountain waters and fragrant garden.

4. Container Bound for Madagascar

On January 27, a 20-foot container was loaded with surplus computers and other donated items for shipment by Air Land Sea Express of St. Louis to Madagascar, an island nation off the East Coast of Africa. Recent installation of new, upgraded computers in several Garden offices resulted in the surplus of desktop computers that will now continue to serve education and botanical research in Madagascar, said Chuck Miller, chief information officer at the Garden. Other Garden divisions donated more items for use by the team of botanists there, including herbarium mounting paper and supplies needed for fieldwork and assorted horticultural tools. Clothing and personal items were also sent.

Since 1973, the Garden's activities in Madagascar have been designed to increase collections from the country's many underexplored areas; contribute to conservation planning and implementation by identifying priority areas and highly threatened species; and provide scientific training and assistance.

5. Greening East St. Louis

Last fall, student volunteers in the YouthBuild program of East St. Louis public schools turned out to rededicate the Bolden-Olivette Park community garden with a new sign. YouthBuild have been helping Mamie Bolden, the garden leader there, and her crew with the "heavy work"—tasks that require a lot of energy. Funded by Team St. Louis 2004, Gateway Greening, and the Garden, and in cooperation with YouthBuild, the signage project was an excellent example of good civic cooperation and youth volunteering. "The group of kids was fantastic—very hardworking, courteous—they even cleaned all the tools!" says Tricia Freund, Program Manager of Gateway Greening. "It was a lovely experience, exciting to see the new sign going up. It makes the garden feel finished," says Lynn Kerkemeyer, East Side Marketing Officer. "And the kids really got a kick out of it." This spring, the YouthBuild students are set to install a fence around the garden, donated by Granite City Glass & Fence Co.

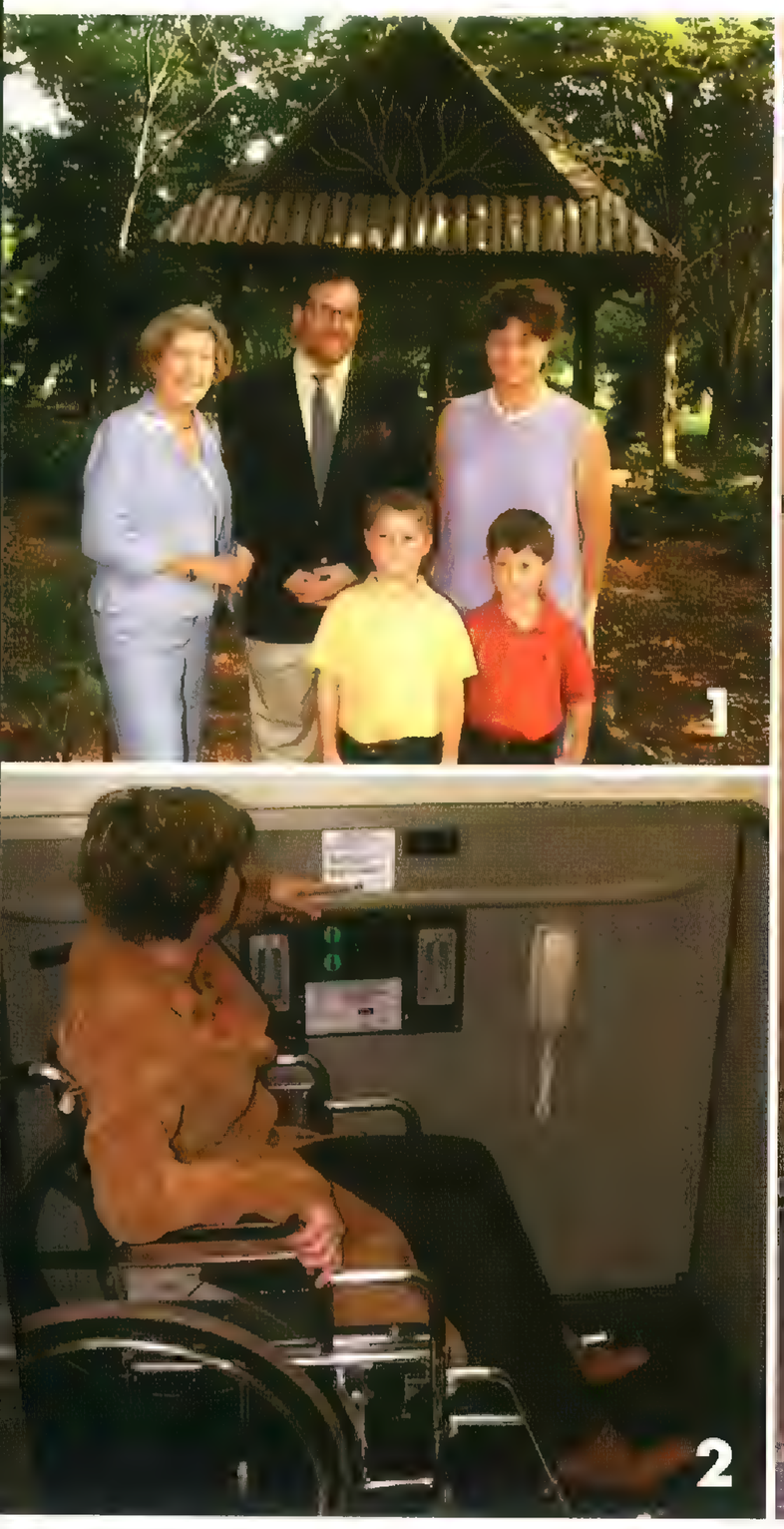

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PHOTO CREDITS 1. MARY BUTKUS. 2. BRYAN RECKAMP. 3. ELLEN FLESCH. 4. [illegible] GATEWAY GREENING

Shaw Nature Reserve

Glade purple coneflowers bloom abundantly in response to cedar clearing and prescribed burning at Shaw Nature Reserve.

Act Natural: Ecological Restoration at Shaw Nature Reserve

by James C. Trager, Ph.D., *Restoration Biologist*

Visitors to the Shaw Nature Reserve often remark on the "natural beauty" of their surroundings. It is indeed one of the most beautiful places in Missouri, but getting it "natural" has been an ongoing project of restoration. Since 1925, the land that is now the Shaw Nature Reserve has been recovering from earlier land use. In the 1800s and early 1900s, farming with little concern for soil conservation led to gullying and loss of topsoil. Logging and grazing and rooting by livestock on non-farmable areas removed the protective forest cover and herbaceous vegetation. Planting of non-native plant species led in some cases to severe invasive weed problems. Early attempts to restore the land would today be considered a curious mix of wise and unwise practices. Plantings of native trees were created which have matured into handsome groves today, but these were accompanied by rows of non-native, berry-bearing shrubs planted nearby—"to attract birds"—yet the birds spread the seeds of these shrubs far beyond the original plantings, resulting in severe infestations of privet, bush honeysuckle, and autumn olive.

Since the 1950s and especially since 1980, vegetation management at the Shaw Nature Reserve has increasingly shifted toward a focus on the restoration and reconstruction of Missouri's indigenous plant communities. These include undulating tallgrass prairie; flowery Ozark glades; dense forest and open woodland containing nearly endless combinations of oaks, hickories, and other trees; and various wetland types. The development and maintenance of these plant communities involve prescribed burning or carefully timed mowing, sowing seeds of under-represented native species, and controlling invasive species through mechanical means and judicious herbicide use. Occasionally, complete removal of one vegetation type that has no historical precedent in Missouri (such as dense cedar-elm-ash thicket with almost nothing growing beneath) is done to make way for reconstruction of a native plant community (such as a prairie, post oak savanna, or wetland). In 2002, the restoration program at Shaw Nature Reserve acquired a high-tech aspect, with an effort underway to develop a computer-based geographic information system (GIS) for organizing and analyzing ecological management and mapping information. [Read more on this technology on page 24.]

To fully appreciate the enhanced beauty and biological diversity that ecological restoration has wrought, one must visit Shaw Nature Reserve. I am often asked when is the best time of year to visit Shaw Nature Reserve? My glib answer: "Every two weeks!" Spring is a particularly pleasant time—the comfortable weather, the resurging greenery, our rightly famed daffodil fields, and then the awakening of the Whitmire Wildflower garden. The friendly Visitor Center staff can help you plan your outing in the nearly four square miles and 13 miles of hiking trails on the Reserve's grounds. And, if you like what you see, want to do more to promote biological diversity, and learn a lot about native plants and critters in the process, why not complete a volunteer application and join in the hard work—um, I mean—fun?

Shaw Nature Reserve

Established by the Missouri Botanical Garden in 1925, the Shaw Nature Reserve is in Gray Summit, MO, 35 miles west of St. Louis on I–44 (Gray Summit exit 253). In addition to the Whitmire Wildflower Garden, the 2,400-acre reserve is also home to the restored Bascom House (1879) and 14 miles of hiking trails. Grounds are open daily 7 a.m. to one-half hour past sunset. For information, call (636) 451-3512.

PHOTO COURTESY JAMES TRAGER

James Trager

Restoration Biologist James Trager's doctorate is in entomology, specifically ant systematics, but he's been a member of the Shaw Nature Reserve team for 12 years working in habitat management. "Of course, my ulterior motive in all of this is to create good habitat for ants," he laughs. An avid bug collector since the age of five, Trager notes that even then he witnessed what he would now call habitat degradation. "There were fewer and fewer good places to do field collecting, which led me to want to preserve those places and rebuild others." Trager also leads natural history classes for adults at the Reserve. "My job has great variety. I never get sick of any part of it. The toughest thing is having the patience to restore a natural community, especially where trees are involved. Even restored prairies take 15–20 years to become completely natural. That's why it's so important to preserve what we have." Trager's email is james.trager@mobot.org.

every day can be

EARTH day

by Jean Ponzi,
Program Manager of the
Gateway Center for Resource Efficiency

For environmentalists, Earth Day is like all the holidays rolled into one—it's the biggest annual event for activism and the greatest opportunity for public outreach. As the Garden division devoted to issues of energy efficiency, recycling, and sustainable lifestyle choices, the Gateway Center for Resource Efficiency celebrates Earth Day everyday through a variety of earth-friendly initiatives and special outreach projects. The staff and volunteers of the Gateway Center work hard all year educating school children, families, municipal officials, and business people about practical measures anyone can take to make the Earth a healthier place.

In the education system, Gateway Center organizes student recycling projects in schools throughout the City of St. Louis and St. Louis, Jefferson, and St. Charles counties. Gateway Center teaches University City students about energy efficiency, and is piloting new, original educational materials about air quality for grades K–12.

In the community, Gateway Center coordinates the St. Louis regional chapter of the U.S. Green Building Council, which promotes environmental principles and practices to commercial building professionals. Gateway Center has recently begun work with municipal officials in Madison, Monroe, and St. Clair Counties to advise on possible cost- and resource-savings through energy efficiency and green building practices, in partnership with Shaw's Garden East.

The message of Gateway Center's programs expands upon the Garden's environmental policies of conserving natural resources, wisely using human energies, and sustainably managing resources, so as to preserve the Earth's wealth of knowledge, beauty, and life-supporting systems for many generations in the future. The kinds of environmental practices that flow from this philosophy will benefit Earth-lings everywhere!

Area Teachers Invited to "Think Resource—Not Trash!"

On Saturday, April, Gateway Center's staff, in partnership with the *St. Louis Post-Dispatch* "Newspapers in Education" team, will conduct a one-day workshop on school recycling issues for area teachers. Participants will receive a free copy of *Think Resource—Not Trash!*, a classroom workbook written by the Gateway Center's Jean Ponzi. Free and open to all public and private school teachers in the *Post-Dispatch* service area, the workshop will be held in the Grandel Theater, mid-town St. Louis. Lunch and a tour of the EarthWays Home are included. For registration, call (314) 577-0246 or visit www.mobot.org/gatewaycenter.

Sponsors include the St. Louis Post-Dispatch, Abitibi Consolidated Recycling, and the St. Louis-Jefferson Solid Waste Management District.

EarthWays Home

EarthWays Home

A division of the Garden since 2000, the Gateway Center for Resource Efficiency is headquartered in the EarthWays Home, a century-old Victorian house renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. Located in the historic Grand Center theater district at 3617 Grandel Square. Tours are available on the third Friday of each month. Call (314) 577-0220.

Expanded crew of the Gateway Center with new "green" Docents (from left): Eleanor Hall, Kristin Regan, Jack Karty, Glenda Abney (in back), Margaret Lilly, John Wike, Nanka Harrell, Jim Young (in back), Emily Andrews, Chris Kalter, Jean Ponzi, Neil Schutte. Not pictured: Deborah Chollet, Beth Haase, John Patrick.

Tours, Tours, Tours

In conjunction with Earth Day, the EarthWays Home offers a special open house on Friday, April 18. Garden members and others can stamp their "Earth Day Around Town" Passport to a Healthy Planet, and activities include a recycled paper-making activity, in addition to the hour-long tour of household features and practices that can affordably "green" any home. Tours of the EarthWays Home will also be offered on Friday and Saturday, March 21–22, beginning on the hour at 10 a.m., 11 a.m., noon, and 1 p.m. Admission is $2, but free for Garden members, their guests, and children under age 6.

The EarthWays Home's expanded tour capacity is made possible by a new corps of volunteers. Recent grads of the training program are now contributing to tours and other environmental education outreach efforts. This addition to the Garden's valued Docent program literally doubled the visitor service capabilities of Gateway Center's compact staff!

Butterfly House

A division of the Garden since 2001, the Sophia M. Sachs Butterfly House features butterflies in free flight inside a glass conservatory as well as outdoor habitats. Located in Faust Park, Chesterfield, MO, the Butterfly House is open daily 9 a.m. to 4 p.m. (5 p.m. in summer). For information, call (636) 530-0076.

beetle facts

- **1 out of every 4 animals on Earth is a beetle.**
- **Lightning bugs and ladybugs are really beetles.**
- **Dung beetles can eat an entire cow patty in one day.**
- **A collector once paid $90,000 for a particularly rare beetle.**
- **Kalahari Bushmen coat their arrows with poison from a leaf beetle.**

Built like a Tank: Beetles

Beetle-mania strikes the Sophia M. Sachs Butterfly House in April, in a continuation of the "Spectacular Spineless Species" series. Predating the dinosaurs, these armored arthropods dominate all others, thanks to their incredible adaptability. With 800,000 beetle species (compared to, say, 4,000 mammals), beetles make up one of every four living creatures on Earth. There are beetles to consume every type of food, and beetles living in nearly every habitat except the open sea. They range tremendously in color—all colors of the rainbow—and size, from the heaviest insect on Earth (Goliath Beetles weighing a quarter pound) to some of the lightest and smallest at barely one millimeter in length. And new species are being discovered daily! See some of these amazing beetles live daily, Tuesday through Sunday, at the Butterfly House, and be sure to catch the lectures, activities, and classes in conjunction with Beetle-mania.

The "Spectacular Spineless Species" series is a program of live-animal exhibits, running February 1 to November 30, and showcasing the largest and most fascinating groups of organisms on the planet—arthropods. Species featured include roaches, beetles, mantids, caterpillars, and arachnids. Roaches debuted in February and runs through the end of March. Don't miss your opportunity to see the world's fastest insect, running the human equivalent of 157 miles per hour. And on March 8, kids are invited to a special class on the secret life of the roach (free with admission).

Featured class: Be a Butterfly

Children ages 4 and 5 will learn about five species of native Missouri butterflies and moths, as they dress up in butterfly style, flutter around looking for special plants, and sip nectar. A fun introduction to entomology for small children and a darling photo op for parents. Dates: May 17, June 18, Aug. 16, Sep. 10. Class lasts one hour and begins at 10 a.m. Cost is $10 for general public ($8 for Garden members). Advance registration required by calling (636) 530-0076. Children must be accompanied by an adult.

Mother's Day Brunch

Sunday, May 11: Enjoy a Mother's Day brunch al fresco at the Butterfly House catered by Ces & Judy's. Reservations are available for 10 and 11:30 a.m., cost $24.95 for adults ($12.95 for children 4–12), and include admission to the Butterfly House. Dine under the pavilion on the Emerson Lakeside Terrace, overlooking the ponds and gardens of the Native Habitat. Souvenir photos will be available onsite that day. Seating is limited and advance reservations are required. Please call (314) 361-3365.

March

Now through Fri., Mar. 7
"Missouri Discoveries," postmodern landscape paintings by John Louder. 9 a.m. to 5 p.m. RC.

Now through Fri., Mar. 7
"Celebrating A Century of Conservation," a U.S. Fish and Wildlife exhibit. 9 a.m. to 5 p.m. RC.

Now through Sun., Mar. 16
"Enchanted Forest" orchid show 2003 continues. Admission plus $3 for adults ($2 for seniors). Members and children 12 and under free. 9 a.m. to 5 p.m. RC $

Now through Sun., Mar. 31
Roaches! on now as part of the "Spectacular Spineless Species" series. Activities, games, and displays. Tues. to Sun., 9 a.m. to 4 p.m. BH. $

Now until Apr. 27
Missouri Plein Air Painters exhibit Shaw Nature Reserve paintings. Tues. to Sun. 9 a.m. to 4 p.m. SNR.

Throughout Apr.
Watercolor exhibit by Mary Dee Schmidt, long-time Garden instructor. GGS.

Beginning Mon., March 3
Spring classes and tours for adults and families. For information, call (314) 577-9441or visit: www.mobot.org/gardeninghelp.

Sat., Mar. 8
Fifth annual Dirt Festival. See page 20 for details. For reservations, call (314) 577-9562. 9 a.m. RC.

Sat., Mar. 8
Lecture and book signing: Ellen Dugan signs her new book *Garden Witchery: Magick from the Ground Up.* Lecture: 2 pm. RC. Book signing: 3 p.m. GGS.

Sat., Mar. 8
Garden StoryTime, for children ages 4 to 10. Children under age 4 must be accompanied by an adult. 11 a.m. GGS.

Wed., Mar. 12
"Simply Women," an event celebrating Women's History Month. Women's issues including careers, education, health, and more. Sponsored by Senior Circuit newspaper. 9 a.m. to 4 p.m. RC.

Thurs. to Sun., Mar. 13-16
Members receive 20% off all orchids and orchid-related merchandise. GGS.

Fri., Mar. 14
Ernst Haas Memorial lecture by Jay Maisel. See page 9 for details. $12 ($8 for Garden members). For information, call (636) 451-3512 for information. 8 p.m. RC. $

Sat. & Sun., Mar. 15 & 16
Ernst Haas memorial photography workshop by photography legend Jay Maisel. See page 9 details. Fee is $375 ($350 for Garden members). Sat. 8:30 a.m. to Sun. 1:30 p.m. Call (636) 451-3512 for reservations. SNR. $

Mon., Mar. 17 to Tues., Apr. 8
"Remains of a Rainbow," exhibition of Hawaii's rare plants and animals by Susan Middleton and David Liittschwager. 9 a.m. to 5 p.m. RC.

****Wed., Mar. 19**
Members' Event: *Remains of a Rainbow* with the authors. See page 6 for details. 11 a.m. RC.

Thurs., Mar. 20
Master photography class conducted by world-renowned *Remains of a Rainbow* nature photographers Susan Middleton and David Liittschwager. See page 9 for details. Fee is $100 ($75 for Garden members). Call (314) 577-9441 for reservations. 9 a.m. to noon. KC. $

Fri., Mar. 21
Tour the EarthWays Home at Grand Center the third Friday of each month. This century-old Victorian home has been renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. $2 (free for Garden members). Call (314) 577-0220. Tours begin at 10 a.m., 11 a.m., noon, and 1 p.m. EH.

Sat. Mar. 22
Spring 2003 St. Louis Garden Symposium.Co-sponsored by the St. Louis Horticulture Cooperative and the Junior League and held at the St. Louis Community College at Meramec. Call (314) 966-0253 for details.

Sat., Mar. 22
Special weekend tours of the EarthWays Home in Grand Center. For information, call (314) 577-0220. 10 a.m., 11 a.m., noon, 1 p.m. EH.

Get onboard the Wilderness Wagon!

Several options for adult tour groups are available at the Shaw Nature Reserve, but the Wilderness Wagon is by far the most fun. Holding up to 28 people, the wagon is pulled on a three-mile gravel road as a naturalist guide describes the Reserve's history, what's in bloom, the Pinetum conifer collection, tallgrass prairie, wetlands, and wildlife. (Birders: bring your binocs!). The one-hour tour wraps up with a visit to the restored 1879 Bascom House. Reservations are required, so call (636) 451-3512 for more information.

Sat., Mar. 29
"Brothers for Life" Prostate Cancer Walk, sponsored by the American Cancer Society. Choose up to a three-mile walk, followed by a presentation on the symptoms and treatment of prostate cancer. Registration fee is $15. Call (314) 286-8176. 8 a.m. to noon.

Sat. & Sun., Mar. 29 & 30
Mid-America Regional Lily Society sale. 9 a.m. to 5 p.m. RC.

Sun., Mar. 30
Lecture and book signing: Eric Sandweiss signs his book *St. Louis in the Century of Henry Shaw: A View Beyond the Garden Wall.* 1 p.m. RC.

Sun., Mar. 30
Live music performance by Ian Hobson launches the spring season of Classic 99's "From the Garden, Live®" concert series that runs from Mar. 30 to May 4, broadcast live on 99.1 FM. Sponsored by KFUO-FM and the Garden. Free. Call (314) 725-0099 for ticket information. Noon. RC.

Now through Tues., Apr. 8
"Remains of a Rainbow," exhibition of Hawaii's rare plants and animals by Susan Middleton and David Liittschwager. 9 a.m. to 5 p.m. RC.

Tues., Apr. 1 to Sat., May 31
It's BEETLE-mania as the "Spectacular Spineless Species" series continues. Call (636) 530-0076 for details. 9 a.m. to 4 p.m. Tues. to Sun. BH. $

Fri., Apr. 4
Arbor Day, see page 20 for details. 9 a.m. to 5 p.m. KC

Sat., Apr. 5
International T'ai Chi Day. Local T'ai Chi school perform in honor of the international observance of T'ai Chi Day. 10 a.m. to 1 p.m. CA.

Sat. & Sun., Apr. 5 & 6
Metropolitan St. Louis African Violet Council's 48th annual show and sale. 9 a.m. to 5 p.m. RC.

Sun., Apr. 6
Classic 99's "From the Garden, Live®" with the Court House Steps. Free. Call (314) 725-0099 for tickets. Noon. RC.

****Wed., Apr. 9**
Members' Day: Gardening with Low-Maintenance Perennials. See page 6 for details. 11 a.m. RC.

Wed. to Sun., Apr. 9-13
Members receive 20% off all seeds, trellises, gardening books, and garden tools. GGS.

Sun., Apr. 13
Classic 99's "From the Garden, Live®": Opera Theatre of St. Louis. Free. Call (314) 725-0099 for tickets. Noon. RC.

****Sat., Apr. 12**
Members' Event: Eggstravaganza. Reservations required. See page 6 for details. 10 a.m.

Sat., Apr. 12
Garden StoryTime, for children ages 4 to 10. Children under age 4 must be accompanied by an adult. 11 a.m. GGS.

Sat. & Sun., Apr. 12 & 13
Members receive 20% off all children's merchandise, including books.

Sat. & Sun., Apr. 12 & 13
Greater St. Louis Daffodil Society show. Saturday, noon to 5 p.m. Sunday, 9 a.m. to 5 p.m. RC.

Sat. & Sun., Apr. 12 & 13
Grand South Grand House Tour. Call (314) 773-4844 for ticket information. 11 a.m. to 5 p.m.

Mon., Apr. 14 to Fri., June 6
Folk Art of Latin America exhibit and sale. Proceeds benefit the Garden. 9 a.m. to 5 p.m. RC.

Fri., Apr. 18
"Earth Day Around Town" tour the EarthWays Home at Grand Center. $2 (free for Garden members). Call (314) 577-0220. Tours begin at 10 a.m., 11 a.m., noon, and 1 p.m. EH.

Mon. to Sun., Apr. 21–27
Illinois Appreciation Week at the Garden. Illinois residents receive two-for-one admission and a 10% discount in the Garden Gate Shop with proof of residency. Illinois residents who become Garden members on this day also receive a discount. 9 a.m. to 5 p.m.

Tues., Apr. 22
"How Does Your Garden Grow" Washington University Professor Walton O. Schalick discusses physicians and gardens in medieval France. 4 p.m. MC.

Fri., Apr. 25
"What's So Interesting About Plant Resins" lecture by Dr. Jean Langenheim, UC–Santa Cruz. Learn about the beautiful fossils left by resins and how the resins of living plants are still used as medicines, incense, artwork, and for industrial purposes. Book signing follows. 4 p.m. RC.

Sat., Apr. 26
Earth Day celebration at the Garden with Earth Share Missouri and the Garden's Eco-Adventures program. One of many "Earth Day Around Town" activities; visit www.stlouisearthday.org for more information. 10 a.m. to 3 p.m.

Sat., Apr. 26
Greater St. Louis Iris Society bearded iris show. Noon to 5 p.m. RC.

Sat., Apr. 26
American Rock Garden Society sale. 9 a.m. to 5 p.m. RC.

Sat. & Sun., Apr. 26 & 27
Members receive 20% off all bulbs, bulb tools, soil, and bulb-related books. GGS.

Sat., Apr. 26
Classic 99's "Young Heroes in Music®" concert celebrates the talent of St. Louis' youth. Free. Call (314) 725-0099 for tickets. 10 a.m. RC.

Sun., Apr. 27
Flower Sunday at Christ Church Cathedral, as provided in Henry Shaw's will. See page 23 for details. 9 a.m. and 11 a.m.

Sun., Apr. 27
Classic 99's "From the Garden, Live®": U.S. Air Force Band of Mid-America. Free. Call (314) 725-0099 for tickets. Noon. RC.

May

Thurs., May 1
Signature Plant Sale. See page 23 for details. 9 a.m. to 4 p.m. Horticulture greenhouse complex.

Thurs. & Fri., May 1 & 2
St. Louis Storytelling Festival. Details TBA. Sponsored by the University of Missouri-St. Louis Continuing Education and Outreach.

Sat. & Sun., May 3 & 4
English Country Faire weekend, featuring performances of "Shakespeare On The Lawn." Details TBA.

Sat. & Sun., May 3 & 4
St. Louis Horticultural Society show and sale. Saturday, noon to 5 p.m. Sunday, 9 a.m. to 5 p.m. RC.

Sun., May 4
Live music performance by Elisa Barston, Jim Hsu, and Peter Henderson concludes the spring season of Classic 99's "From the Garden, Live®" concert series, broadcast live on 99.1 FM. Sponsored by KFUO-FM and the Garden. Free. Call (314) 725-0099 for ticket information. Noon. RC.

****Fri., May 9**
Members' Event: Mother's Day Luncheon and Fashion Show.

Sat., May 10
Shaw Nature Reserve's Spring Wildflower and Native Plant Sale. 9 a.m. to 4 p.m. SNR.

Sat., May 10
Garden StoryTime, for children ages 4 to 10. Children under age 4 must be accompanied by an adult. 11 a.m. GGS.

Sat. & Sun., May 17 & 18
Chinese Culture Days. Traditional procession, folk fashions and dancing, arts and crafts, t'ai chi, music, games, Chinese garden tours and an authentic Chinese food court. $7 adults, $5 seniors, free to Garden members and children age 12 and under. 10 a.m. to 5 p.m. both days

Key

All events are free with admission or membership unless otherwise noted.

BH = Butterfly House
CA = Cohen Amphitheater
CL = Climatron
EH = EarthWays Home
GGS = Garden Gate Shop
JG = Japanese Garden
KC = Kemper Center
MC = Monsanto Center
RC = Ridgway Center
SNR = Shaw Nature Reserve
SP = Spink Pavilion
* denotes a Members-only event.
$ denotes an additional fee.

Hands-on learning activities are presented each Saturday throughout the year from 10 a.m. to 2 p.m. These fun activities are tailored to fit the age range of the audience and utilize toys, puzzles, and games to help visitors learn about plants and their environment. Brookings Interpretive Center or on the Garden grounds.

Great Garden Adventures
Take a self-guided "Great Garden Adventure" tour. Ask at the ticket counter about a Fitness Foray, Stroller Strut, Kids' Quest, or Guided Exploration. Wheelchair-friendly route also available.

Walking tours led by Garden Docents leave from the ticket counter at 1 p.m. daily throughout the year (except during Japanese Festival and Best of Missouri Market).

Garden walkers' breakfasts
In cooperation with the American Heart Association, the grounds open early every Wednesday and Saturday at 7 a.m. to encourage fitness walking. A light breakfast is available for purchase in the Garden Café.

Tower Grove House,
Garden founder Henry Shaw's 1851 country home is closed for reinterpretation until late 2004.

Easter Brunch at the Garden Café

Enjoy springtime in the Garden at the all-new Easter brunch buffet.

Sun., April 20
Reservations only: (314) 577-9530
Adults $24.95; children $11.95
(5 years and under free)

Don't forget to make your reservations for our annual Mother's Day Brunch: Sun., May 11.
(Reservations and pricing same as above)

Bulbs, glorious bulbs…it's the rare brownthumb who can't at least recognize a tulip or daffodil and for good reason: bulbs are among the most popular of plants. Every year, displays such as the sweeping acres of narcissus at the Shaw Nature Reserve and the thousands of tulips and hyacinths at the Garden draw admiring, and sometimes envious, crowds.

Such vast swathes really aren't necessary for the home gardener, advises Jason Delaney, Garden Horticulturalist and bulb specialist. "One of the biggest mistakes people make is to overplant in the beginning. You absolutely do not need a lot to have a beautiful display."

So what do you need?

Site Selection versus Resignation

The first and most important choice to obtain a beautiful bulb display in your own backyard is site selection.

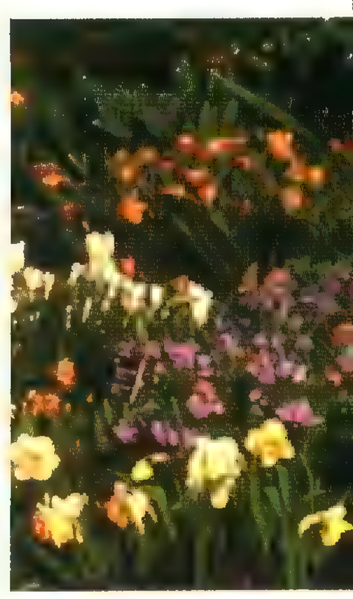
"Bulbs are very easy plants, finicky in only one way—they require excellent drainage," says Delaney. Most bulbs hardy to Saint Louis originate from southern Europe to far eastern Asia, mostly in dry, rocky places without much summer and winter moisture. Tulips especially require a hot, dry soil throughout their dormant period (summer/early fall) in order to bloom again year after year. Knowing this, take a good, hard look at your site. Is it on low-lying ground near a wall where water collects? Is it lined with annuals or moisture-loving perennials that require weekly watering in summer? If you don't have a location with good drainage to begin with, you have two options.

For the truly determined bulb-grower, with a love of tulips, hyacinths, and other dry-root bulbs in his/her heart, you will need to amend the soil greatly where you intend to plant bulbs by mixing in gravel, sand, or especially calciline clay. This last item, sold under brand names such as Turface, Terragreen, and Klaycon, is used abundantly at the Garden, but is often confused by home gardeners with cat litter. "It is not the same," cautions Delaney. "Cat litter will dissolve into sludge—exactly the opposite of what you want." The goal is to mimic the loose, crumbly soil of the bulbs' native habitat. This done, the tulipomane home gardener

Delaney's Gourmet Bulb Lasagne*

(a nice mix for multi-seasonal bulb display)

Bulb	Common Name	Blooms in
Chionodoxa	Glory-of-the-Snow	Early spring
Narcissus	Daffodils	Some varieties as early as February, as late as May—('Topolino,' 'Lorikeet,' 'Fruitcup,' 'Mondragon,' 'Killearnan')
Tulipa	Tulips	'Darwin Hybrid' and 'Single Late' tulip varieties are recommended for St. Louis for their excellent perennial qualities, bloom mid-spring.
Gladiolus byzantimus	Byzantine Glad	Blooms as the late tulips fade.
Lilium	Lily	Blooms as the daffodil foliage fades. Will bloom April through August if you pick the right varieties, such as species, asiatics, trumpets, and orienpet varieties, Perennial, easy to grow. They don't die back when flowering is done; foliage lives until the frost.
Gladiolus	Common Gladiolus	Bloom throughout summer.
Lycoris	Magic lilies, Naked Ladies	July through September
Colchicum	Autumn crocus	Autumn to early winter
Sternbergia	Autumn daffodil	Late autumn



** Reader's Digest interviewed Delaney in their September 2002 issue and ran a condensed version of this recipe.*

should now be able to plant any hardy bulb and expect results and repeat performances.

The second option requires resigning yourself to treating bulbs, or at least some of them, as annuals. "People always ask why their tulips don't come back like the Garden's," laughs Delaney. "The tulips look great here because we plant new ones every year." Check out the Garden's tulip beds: they're overplanted with annuals, which require watering in the St. Louis summers. "We've opted to treat the tulips as annuals because it allows us to maintain full displays of color year after year, as well as to change the display annually and try new varieties." With tulip prices competitively low and new cultivars introduced annually, it's a strategy many home gardeners are choosing to adopt. Other types of bulbs tolerate more moisture—daffodils, lilies, most tropical bulbs, and Indian hyacinth, native to the northwestern U.S., are good selections for a St. Louis garden prone to some seasonal wetness.

Have a Plan

The second injunction for a beautiful bulb display is good advice in general: have a plan. When designing your garden, consider the bulbs' dormancy period. You will need to compensate for the newly created space when the flower is gone, but you need to do so in a way that won't disturb the dormant bulbs too much. "Shallow-rooted annuals sown by seed—such as coleus, salvias, and marigolds—are excellent for this purpose," says Delaney. "Plant them while your tulips are still in flower, let them go all summer, then rip them out in fall."

Plan too for timing. Often considered harbingers of spring, bulbs are actually a more various lot, with species for every season. "Spring is a great time to go around and get ideas," says Delaney, "but you can plan a bulb display lasting from late winter though late fall, if you have the inclination." Jason's sample "recipe" for a multi-seasonal bulb display garden in St. Louis is included at lower left

Plan to your tastes. When selecting color and layout, "Above all, go for what you like," encourages Delaney. "Your garden should reflect your personality, your creativity. Give your neighbors opportunity to wonder..." Whether traditional or contemporary, less is still more, where bulbs are concerned. The savvy garden designer knows that "informal little pockets of three to five bulbs of anything can make a great display."

Install and Maintain

So now you've got your location and your plan. Get the goods from a local supplier or catalog merchant, pick a nice fall afternoon and organize the bulbs on the ground where you intend to plant them. If you're going for a formal, Dutch-style display, this will mean creating large, monochromatic drifts of color. If you're going informal, says Delaney, "this could be as simple as making a margarita, relaxing in a lawn chair, and tossing handfuls of bulbs into the flowerbed." So long as the bulbs are planted far enough apart from each other and at a correct depth, pretty much anything goes. One note, though, for St. Louisans who are planning to treat their tulips and hyacinths and other drainage-loving bulbs as annuals: it's best to keep them separate from the daffodils and

continued on page 20

PHOTO BY ELIZABETH MCNULTY

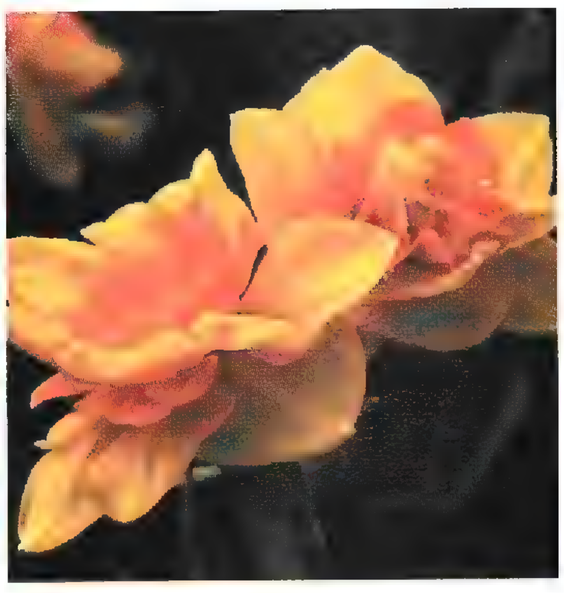
Jason Delaney

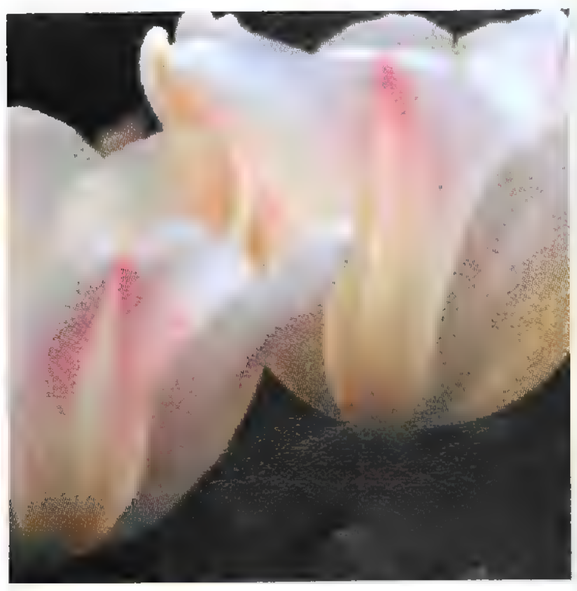
Garden Horticulturalist and bulb specialist Jason Delaney's love affair with good things in small packages dates back to childhood, perhaps even pre-childhood. "When my mother was pregnant with me, she planted daffodils around the yard for days on end," he quips. Indeed today, Delaney lists the Garden's daffodil collection as his favorite. When he joined the Garden in 1996, there were 29 varieties in the bulb borders. Today, there are some 400. His personal collection contains over 1,000 different varieties.

When Delaney got the call from Reader's Digest, *a magazine with a circulation of over 11 million readers, last year, he was nonplussed. "These sorts of things happen all the time!" When TV, magazine, and newspaper editors need an expert on bulbs and spring gardening, they call Delaney. Look for upcoming articles in* Midwest Living *on the "fragrant flowers of spring" and the Jenkins daylily garden.*

Last year the Garden ordered 82,593 bulbs. "It's not like I plant them all myself!" In fact, he's quick to add the Garden's spring bulb displays owe much to the labors of coworkers like Jon Sweeney, Jill Butler, and Ilaz Dalipi, along with an amazing (and vast!) crew of volunteers. "The Lily, Daffodil, Daylily, Rock, and Iris societies, as well as our general volunteers, are a tremendous help—they are reliably consistent and demonstrate an excellent quality of work." Delaney's email is jason.delaney@mobot.org.

If you are interested in volunteering, call Jackie at (314) 577- 5187. For a directory of all of the plant societies, see page 13 of the January issue of the Bulletin *or check out our website: www.mobot.org.*





PHOTOS BY JACK JENNINGS

gifts of spring

Fancy-wrapped blooming bulbs in the grocery store are almost as much a harbinger of spring as crocus in the lawn. What to do when the flower fades? For Easter lilies, plant them outside after they die back, they might bloom again in the fall. For daffs and hyacinths, place them in a well-lit area with light water only. Then move them to a dry, dark location for 8–10 weeks before planting out in fall. They should bloom again in spring. But as for those potted tulips...throw them out. The gifty-nifty varieties are typically forced for a one-time bloom.

PHOTO BY JACK JENNINGS

more stalwart bulbs. You don't want to disturb the latter when you're digging out the former.

As for maintenance, there really isn't any. Watch the bulbs come to life, flower, and go dormant again as other plants rise up to camouflage the new space in your well-designed garden. If you want your bulb to attempt a repeat performance, do not, under any circumstances, cut or tie up or braid the leaves after flowering. "Before they go dormant, the bulbs are still getting energy from the leaves," warns Delaney. "And the leaves are very fragile. Any interruption of their natural maturation results in long-term damage to the bulb." If you don't believe him, check out the Kemper Center for Home Gardening display this spring showing side-by-side trials of daffodils with leaves cut, tied, and left alone.

Rodents and deer and fungus, oh my!

Far and away, deer and rodents are the worst hazard for bulbs. For deer problems, it's best to stick to daffodils and other members of *Amaryllidaceae* (such as snowdrops) for the spring displays. These bulbs are poisonous to these animals and thus not appealing. For squirrels, a layer of vinyl-coated chicken wire beneath the mulch will allow the bulbs to sprout through, but keep the pesky creatures from digging down.

As for other pests… Some bulbs may acquire a virus, but it rarely causes harm. Some tulips may fall prey to "tulip fire," a fungal infection that causes premature die-down of the foliage—not necessarily a problem if you're treating tulips as annuals. The fungus *botrytis* is the biggest challenge Delaney faces for the Garden's lilies. Botrytis strips the foliage from the plant, but can be easily and quickly stopped with Bordeaux Mix, a garden-friendly spray available at any garden center.

St. Louie Blues

When the inevitable happens to you in St. Louis and your bulbs pop through the mulch just in time for a snowstorm report—don't panic. "Snow is a terrific insulator," explains Delaney. "It protects the tender plants from the cold." Don't tent or cover the bulbs: they will be crushed under the snow's weight. If bulbs are already blooming and foul weather is predicted, Delaney recommends that you either risk riding it out, or cut the flowers to enjoy indoors (keeping the leaves intact, of course).

Bulb Classes

The Adult Education division offers classes to Members at a discount, with classes on bulbs and garden design offered every fall and spring. Go to http://www.mobot.org/gardeninghelp on the web to view current course offerings.

5th Annual Dirt Festival

Learn to build healthy, nutrient-rich soil for thriving plants in your own backyard at the Garden's annual dirt festival. Free lectures by local experts, combined with the optional soil test ($20–$35, preregistration requested), will give you all the information you need. To register, call (314) 577-9562 or print an online registration form from the Garden's website at www.mobot.org/gardeninghelp. Auditorium seating is first come, first served on the day of the program.

Sat., Mar. 8 • 8:30 a.m. to noon
Ridgway Center

Arbor Day

Missouri celebrates Arbor Day on the first Friday in April. As in years past, the Garden will give away 300 trees, available first-come, first-served. Species this year include the Bald cypress (*Taxodium distichium*), spring-blooming Witch hazel (*Hamamelis vernalis*), and Spice bush (*Lindera benzoin*), prized for its aromatic leaves and red springtime berries. Be sure to catch the Kemper Center's spring exhibit of folkart by local kids who made totem pole "trees" of their own.

Fri., Apr. 4 • 9 a.m. to 5 p.m. • Kemper Center

Cape Bulbs

The Cape region, at the southern tip of Africa, is easily one of the richest centers for bulbous plants and probably the most famous. All told, nearly 1,200 species of bulbs find their home there and almost three-quarters of them occur nowhere else. Peter Goldblatt, Curator of African Botany at the Missouri Botanical Garden, has recently co-authored *The Color Encyclopedia of Cape Bulbs* for Timber Press, the first complete account of all the true bulbs and their allies of the Cape Floral Region. Goldblatt is the world's leading expert on the iris family and its relatives.

Color Encyclopedia of Cape Bulbs *by John Manning, Peter Goldblatt, and Dee Snijman. 2002, Timber Press.*

of tulips and daffodils

Tulips and daffodils have a long and distinguished place in Garden history. The Garden's tulips formed the focus of spring coverage in St. Louis newspapers in the early 20th century, with headlines announcing "25,000 Gorgeous Tulip Blossoms, Sleepily Nodding, Enchant Hundreds of Visitors at Shaw's Garden" (*Republic*, April 18, 1909) and "42,000 Varicolored Tulips at Shaw's. Gorgeous Display for To-Day" (*Republic*, April 18, 1915) and "Tulips Amaze Thousands. Autos Line Both Sides of the Avenue for Two Blocks at Shaw's Garden" (unidentified newspaper, April 20, 1913). Local crowds numbered in the thousands to view the annual tulip show with bulbs imported direct from "old Holland." Describing a scene similar to the image at right, a *St. Louis Daily Globe* reporter wrote in 1908: "It is tulip time once more at Shaw's Garden…There are 21,000 bulbs abloom in at least a hundred beds of many shapes and colors…From the main entrance on the east [now Spink Pavilion], they spread before the visitor like a scattered rainbow over the green of the lawns and nestling among the shrubbery. The entrance walk is guarded on either side by a wide bed of red and yellow tulips... Directly in front is the statue of Juno in the center of the parterre…"

Because of their treatment as annuals in the St. Louis climate, none of today's tulips date back in time. Narcissus, or daffodils as they are more commonly known, are another story. The daffs outside the Garden's Museum Building are quite old cultivars—dating back to the end of the 19th century. The Garden purchased what is now Shaw Nature Reserve in 1925 and daffodil plantings began soon after, focusing on the Pinetum area. In fact, it was this special collection at the Reserve that allowed Garden researcher Edgar Anderson to initiate a program of selecting and evaluating narcissus varieties for perennial hardiness and dependability in the late 1930s. Many of these original narcissus are still apparent today, and the Reserve's daffodil collection is estimated to number well over a million (see the back page of this *Bulletin*).

By rumor, the oldest bulbs at the Garden are thought to be the snowdrops planted in the Mausoleum grounds around Shaw's tomb. Look for them to peeking out even now from the snow.

Photo from May 1918, Mediterranean House and Italian Garden with tulips. Juno and Portico in view. See more great archival images at the Illustrated History of the Missouri Botanical Garden *online. Visit the Library area of the Garden's website: www.mobot.org.*

volunteer spotlight

PHOTO BY ELIZABETH MCNULTY

Lou Malin

After 50 years as an architect in St. Louis, Lou Malin retired in 1999 at the age of 83 and immediately volunteered at the Garden. "I like volunteering, and I was lucky to find something that draws on my background," says Malin. For the last four years, he has worked in the Archives department, taking on the organizing and cataloging of the Garden's oversize drawing collection of mostly blueprints, original surveys, and maps. On the table beside Malin is a thick stack of legal sheets in a binder, each with the meticulous and artful square architect's script of old. These sheets comprise a great advance in organization: they are a nearly complete listing of all holdings cross-referenced by subject and location. "Before Lou came, finding a blueprint was an extremely time-consuming task," says Garden Archivist Andrew Colligan. "Now, after four years of dedicated work, everything is at our fingertips. Lou's contribution to the Garden will be appreciated by generations to come."

There's a place for your talents at the Garden: a wide range of volunteer opportunities are available. For more information, call Jackie at (314) 577-5187.

explorer

Fasciation in a branch of Ailanthus altissima, *Tree of Heave*

the website...

Plant Finder:
Cultural information on over 2,000 plants growing in the Kemper display gardens.

Find-A-Plant:
Search the living plant database to find what plants are growing in the Garden and where.

Gardening Help:
Information on over 300 gardening topics, including all Hortline messages.

Integrated Pest Management:
Diagnostic and control measures for nearly 100 of the most common insect, disease, and environmental problems encountered in Missouri.

Plants of Merit:
Plants selected by local horticulturalists with outstanding qualities for dependable performance in the region.

Plants in Bloom:
Updated weekly at the Garden, along with current photos, updated biweekly.

Fascination with Fasciation

by Chip Tynan,
Horticulture Answer Service Manager

Perhaps you've chanced upon an oddly flattened branch on a plant growing in the wild or your own home garden? Or maybe you've seen a floral arrangement containing a curiously flattened stem? Fasciation is the term used to describe such aberrant growth, a word derived from the Latin *fascia*—to fuse. Fasciation occurs in both herbaceous as well as woody plants, forming in the latter case on rapidly growing softwood before the tissue has hardened. The causes of the condition are not entirely understood. Spontaneous mutation accounts for some, but virtually any factor, including environmental conditions, insects, diseases, or physical injury, that damages the meristematic tissue at the growing tips can result in fasciation. More often than not, the cause is non-infectious.

While any growing part of a plant can become fasciated, perhaps the most spectacular and frequently observed forms occur on stems and branches, resulting in broad, flat, ribbon-like growth often terminating in baroque twists and curves. Lily growers frequently find fasciated stems, especially in Oriental lilies where the condition typically results in an unusually large number of flowers. The flowers of the old-fashioned Cockscomb celosia (*Celosia argentea* var. *cristata*) are fasciated, an inherited trait that comes through from seed. The stems used in floral arrangements frequently come from the Fantail willow (*Salix udensis* 'Sekka'), a hardy shrub which must be produced vegetatively to preserve its fasciated character. But it is the chance discovery of this purest of garden art—these bizarre beauties—that provides the observer with the opportunity to wonder at the endless variety of the natural world.

PHOTO BY ELLEN FISCH

On the Garden staff since 1986, Chip Tynan manages the Garden's Horticulture Answer Service, overseeing a staff of 40 volunteers who field an excess of 20,000 questions annually. He is a well-known local columnist for the St. Louis Post-Dispatch *and regularly teaches adult education courses at the Garden, talks to gardening clubs, and appears on local TV and radio as a gardening expert. Tynan's email is chip.tynan@mobot.org.*

Flower Sunday

In planting trees and flowers to create the Garden, Henry Shaw often expressed the belief that he was doing the work of ministers. So sacred was his love of nature, and specifically the botanical realm, that he left a legacy in his will to provide for an annual sermon preached on "the wisdom and goodness of God as shown in the growth of flowers, fruits, and other products of the vegetable kingdom."

Every year since 1890, "Flower Sunday" has drawn popular speakers to Christ Church Cathedral, and since 1938, crowds of onlookers to admire the spectacular floral displays by Garden horticulturalists. For folks who'd like to admire the flowers without the religious service, the event features two free concerts in the Cathedral on Thirteenth and Locust: Collegium Vocale performing Baroque music at 8 p.m. on Saturday night, and Evensong at 5 p.m. on Sunday, performed by the Cathedral's own choir.

Sun., Apr. 27
9 a.m. and 11 a.m. services
Christ Church Cathedral

PHOTO COURTESY SPOEDE GARDEN CLUB

Grow, Kid, Grow!

Go to school in the summer? Dig in the dirt under the hot, hot sun? Over 45 students did just that from May to August 2002 in the Kemper Center's Youth Gardening Program. Founded in 2001, the Youth Gardening Program is a joint development of the Garden and the University Outreach and Extension of the University of Missouri St. Louis. The YGP partners with local elementary schools (UOE in St. Louis City, Kemper in the County) to provide "hands-on, field learning in horticulture" for children in grades 1–5. Over the course of three months, kids dig in the dirt, plant food and flowers, and learn both the joys of gardening and the importance of plants to the environment. This summer, Kemper will bring the program, including instructors, volunteers, and lesson guide, to five schools in St. Louis County, including Reed, Spoede, Old Bonhomme, Hudson, and Clayton Child Center. Twenty students at each location will be able to enroll in the fun—and get to work!

PHOTO BY MBG HORTICULTURE

signature plant sale

For one day only, the Greenhouse Complex will open its doors to Garden members for the signature collection plant sale. Since 1991, the Horticulture department and their team of volunteers have worked diligently to seed and propagate the Garden's most desirable plants in order to supply public demand on this very special day. Over the years, a wide variety of special plants have debuted: the Golden Larch (*Pseydolarix amabilis*), grown from seeds from a 1904 World's Fair specimen; the highly desirable boxwood *Buxus sempervirens* 'Henry Shaw,' named for the Garden's founder; and the majestic pine *Pinus tabulaforma*, sown from seeds given the Garden by the city of Nanjing for display in the Chinese Garden of Peace and Friendship.

In addition, the entire Flower Sunday floral installation from Christ Church Cathedral will be on display. Don't miss this special opportunity to purchase your own piece of the Garden. All proceeds benefit the Horticulture division.
Call (314) 577-9537 for details.

Greenhouse Plant Sale
Thurs., May 1
9 a.m. to 4 p.m.
Garden Greenhouse Complex

map it

The Office of Homeland Security has it. Chase Manhattan Bank's been using it for years. The Metropolitan Sewer District's got it, and the Garden too has seen the benefits of GIS. Geographic Information System, or GIS as it's known, is high-tech computer system that enables governments, businesses, and researchers to manage and analyze geographic information.

"It all started here with the orthophoto," says Plant Records Coordinator Rebecca "Becky" Sucher, who after three years at the forefront of the Garden's cutting-edge system, still remembers to explain her jargon. An orthophoto, it turns out, is a "digitally geo-referenced aerial photo with consistent scale." Simply put, it's the perfect base for an exactly accurate map.

The Plant Records staff goes out into the field, i.e., the Garden, with handheld computers containing the perfect base photo to map specific coordinates for plants growing on the grounds, matching that data to a variety of other information about that plant already in their system. They also record paths, beds, trees, benches, water features, buildings, sculptures, shrubs, perennials, etc. "It's a never-ending process," laughs Sucher. "A new fountain was installed in December and we haven't captured it yet. It took us three full years to map the Garden's 5,000 trees. We have no idea how long it will take us to do shrubs and perennials."

As chunks of the undertaking are completed, Plant Records staff are able to generate custom maps to meet the needs of horticulturalists, researchers, educators, or volunteers—for example, a map of every plant of Japanese origin, or of every shrub 20 years or older, or every tree with lightning protection. And the project is headed for a web-enabled version in 2003, allowing visitors to the Garden's website (www.mobot.org) to generate their own special maps of the Garden—design a custom tour of Garden oaks, or visit your family's memorial bench. The possibilities are endless.

The Garden is already benefiting from practical application of the technology. Through the tremendous level of geographic accuracy, the Horticulture division is now able to calculate exactly the perimeters and volumes of irregularly shaped beds for purchasing of edging materials and bedding plants. In the future, the Garden hopes to add GPS, or Global Positioning Satellite, technology to the program. Currently, Plant Records staff must use conventional survey techniques to record features like new paths and irrigation lines.

Thanks to the St. Charles-based Environmental Systems Research Institute for sponsoring the GIS program with software and training.

PHOTO BY ELLEN FIESCH

Rebecca Sucher

"I love GIS," says Coordinator of Plant Records and Application Rebecca Sucher. "It's the perfect mix of science and technology. It is never boring." After completing her bachelor's in biology, she was looking for this mix while she worked simultaneously on a horticulture degree and as a part-time plant recorder at the Garden. After five years here, Sucher is still enthusiastic about her job: "It's great working for a world-class institution. It challenges you constantly to maintain our reputation." Sucher's email is rebecca.sucher@mobot.org.

Above left: Plant Records staff Becky Sucher and Jo Ann Batzer record data into a handheld computer like the device at left.

Above center: a tree with lightning protection in place. We can map all such trees, using GIS.

Left: Handheld computer used to record field data. The Garden has exactly 1,200 square feet of boxwood hedge in the parterre, a calculation made with GIS.

from watercolor to water gardening

Classes and Tours for Adults and Families

From Australian wine to Zoysia lawn care, the Garden's spring classes appeal to a broad range of interests. More than 40 new listings are included in the schedule of 135 classes and tours for adults and families. Registration is now open, as members should know—all members receive advance notice with the mailing of the course catalog. Members also receive discounts on all classes of up to 20% off. So sign up today for single and multiple sessions in: landscaping, specialty gardens, plant care, photography, botanical crafts, floral design, cooking and ethnic cuisine, wine, the mind/body, and more.

New plant care classes include "Creating a Tropical Bed" and "Herbs, A Gardener's Delight." Brush up on the care and maintenance of annuals and perennials, trees and shrubs, and ornamental grasses. Learn to create an edible hanging "salad basket" or miniature fairy garden. Take a walking tour through the English Woodland Garden or the various bulb gardens and learn from MBG's experts. There are also nine courses at the mastery level, suitable for horticulture professionals and advanced gardeners.

Enjoy the beauty of the Garden in spring with art and photography classes. Create a clay planter, gourd basket, or other botanical crafts to take home. Learn decorative ways to display fruits, vegetables, and plants to fine dining effect with "tablescaping." New cooking classes offer a virtual tour of local farmers' markets and culinary voyages to Spain, China, and beyond. For physical health in a b

PHOTO BY TIM PARKER

eautiful locale, discover the relaxing benefits of t'ai chi and yoga at the Garden.

The Shaw Nature Reserve hosts classes ranging from morning bird walks to nighttime insect safaris. Overnight programs at the Nature Reserve include photography workshops and father-son, mother-daughter sleepovers in the lodges of the rustic new Dana Brown Overnight Education Center.

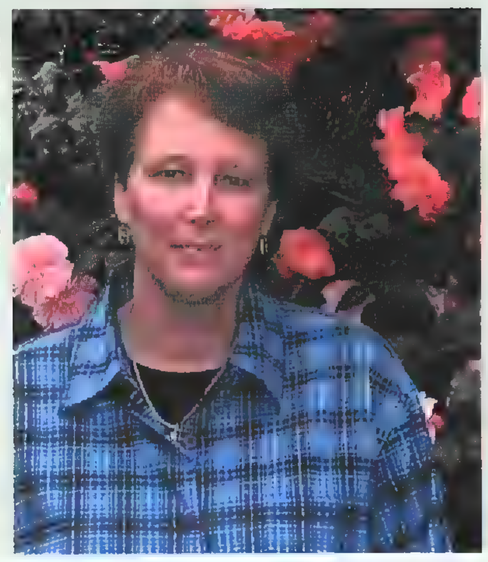
Classes are offered at the Garden's main location, the EarthWays Home in Grand Center, Shaw Nature Reserve in Gray Summit, and the Sophia M. Sachs Butterfly House in Chesterfield. A complete class schedule and information about the instructors can be found online at www.mobot.org/gardeninghelp. For more information on courses, registration, or gift certificates for spring classes and tours, call (314) 577-9441.

Summer Science Academy

June 16—August 15

The Summer Science Academy offers children ages 4–14 the opportunity to explore the living world through adventurous and fun science-oriented classes. Courses offer hands-on learning experiences at the Garden, Shaw Nature Reserve, and Litzsinger Road Ecology Center. Topics include "Rough Science" adventures based on the PBS program, Ecology Exploration, Exploring Nature, Fossils and Dinosaurs, Physical Challenges in Nature, Chemical Interactions of Everyday Stuff, Technology for Explorers, Lewis and Clark Adventures, Muggles' Studies, and Space Exploration. Extended care is available before and after the program day. To obtain a course brochure by mail, call (314) 577-9506; by email, send your request to summeryouthprogram@mobot.org or visit our website at www.mobot.org/education.

PHOTO BY ELLEN FLESCH



Lydia Toth

Talk about sweet deals: Manager of Educational Services Lydia Toth is conducting a daylong class in maple syrup making. "We've got about 18 volunteers taking a refresher course to assist in our maple syrup program next week." Maple syruping is just one of several popular classes developed at the Nature Reserve under Toth's guidance since she joined the Garden's Education division 16 years ago. In addition to her public classes, Toth works on professional development with area teachers. "As we've expanded rapidly, I spend more time at my desk," she laughs ruefully for someone who lists her primary interests as birding, hiking, gardening, and the outdoors generally.

"As a kid, every summer my family went on camping trips all over the country. I credit that experience with my love of nature." She got into environmental education after completing a degree in wildlife management. "I love working with kids, but couldn't imagine being a classroom teacher. When I found out I could combine my passion for the outdoors and my love of teaching, I was thrilled." With ever-burgeoning public demand for classes at the SNR, and now with the Dana Brown Overnight Education Center, Toth manages to keep education activities running smoothly with a staff of four full-timers, two interns, and about 20 volunteers. Her favorite part of the job? "I love the Nature Reserve. I never take it for granted. The people who take our classes remind me all the time how special this place is." Toth's email is lydia.toth@mobot.org.

Sign up today for classes at the Shaw Nature Reserve. Check out the complete listings online at www.mobot.org/gardeninghelp.

Costa Rica

Today, in every country on Earth, species are becoming extinct at an unprecedented rate. Organisms are being lost forever, before we can determine their uses or their role in the balance of nature. Driven by this urgent imperative, Missouri Botanical Garden scientists conduct the most active and geographically widespread botanical research program in the world. Their work forms the base on which the pyramid of plant science stands.

The Taylor Fund for Ecological Research—established by the gift of Jack Taylor, founder of Enterprise Rent-A-Car—allows the Garden to continue pursuit of knowledge of plant diversity in countries all over the world, and to work with these countries to conserve and develop plant resources sustainably before it's too late.

It is known as the jewel of Central America, a tropical paradise of biodiversity, an ecotourism haven. Named the "rich coast" by Christopher Columbus, who was impressed by the locals' gold ornaments, Costa Rica today is stable, democratic, and rich in wildlife. Bordered to the north by Nicaragua and to the east by Panama, the country has both Caribbean and Pacific coasts and is split in two by a volcanic mountain chain running down the center—an environment rich in diversity. As the only extant land bridge between two large continents, Mesoamerica is important to studies of the migration and evolution of plant and animal species, and Costa Rica has successfully defended this inheritance with a reputation for enlightened conservation.

With just under 20,000 square miles, Costa Rica is not quite as big as West Virginia. In fact, it covers only 0.03% of the Earth's surface, but contains approximately 6% of the world's biodiversity. Over one million nature-loving tourists each year from all over the world visit Costa Rica to experience the "natural" tropics. National parks, biological reserves, and wildlife refuges cover about 16% of the country. Even with such an exemplary system of parks and reserves, Costa Rica has suffered over the years from deforestation, largely the result of land clearing for cattle ranching and agriculture, and more recently

for valuable timber. Compared to other tropical countries, Costa Rica has a long and rich history of botanical exploration that began over 100 years ago. Even so, because of the nature of the tropics, the flora of Costa Rica is still poorly known.

Since 1987, the Garden has been engaged in a race to record these plants. In collaboration with the Museo Nacional, and the Instituto Nacional de Biodiversidad (INBio), and with support from the National Science Foundation, Garden Curators Michael Grayum and Barry Hammel have been hard at work on a manual of Costa Rican plants—*Manual de Plantas de Costa Rica*. To produce the manual, a network of researchers across Costa Rica is busy collecting plant specimens from poorly known areas and computerizing plant collection records. The process of compiling this monumental collaborative work has already stimulated numerous scientific and popular publications.

"Our partner INBio has used the material to produce more than 10 popular guides dealing with Costa Rican plants," says Hammell. "And their outreach facility is now a premier site for local schools to teach children about conservation."

Over the last 12 years of intensive Garden involvement in Costa Rican botany, nearly 950 new species and country records have been brought to light, roughly half of them new to science. One particular species of tree has been found to belong to a new family of flowering plants, Ticodendraceae (from "tico," a dimunitive for Costa Rican). This cloud forest tree, a relative of the birch, appears to be the only widespread family of flowering plants endemic to Mesoamerica. Three other new genera have been described from Costa Rica during the last 12 years, and at least 120 other genera have been recorded new to the country during the project.

"The biggest challenge right now is making our special knowledge of plants generally available," says Hammel. "But the upcoming publication of *Manual de plantas* should change that."

"Any serious work on plant biology or conservation in Costa Rica must depend on an accurate, up-to-date flora," adds Grayum. "And that is what we are providing."

Interested readers can check out advance samples of the manual project, including a checklist with color images of most families, and a specimen database with dot maps, a quarterly newsletter, a gazetteer, and sample treatments, at the research section of the Garden's website: www.mobot.org.

Costa Rica has suffered in recent years from deforestation...and the flora of Costa Rica is still poorly known.

Opposite: Chusquea subtesselata *flowering in the high paramo of Costa Rica.*

Insets: a student dressed in a typical folkloric dress, a Costa Rican Independence Day parade, and the national flower of Costa Rica (La Guaria Morada, Cattleya skinneri*) painted on a corner grocery.*

Barry Hammel

Curator Barry Hammel grew up in Wyoming and traces his interest in botany to a childhood spent hunting rocks among the plants. It wasn't until a college course, during which he barely managed to collect 24 different species in a four-month semester, that he was hooked. After a stint in the Peace Corps in South America, Hammel completed his Ph.D. at Duke before heading south for good. "I knew I wanted to continue living in Latin America and first worked for the Garden in Panama in 1978–9. I've been in Costa Rica since 1989." Like most plant hunters, Hammel tells tales of being lost in the forest, getting bit by scorpions and giant "bullet" ants, but by far the scariest? "Costa Rican driving habits!" he laughs, "Here, yield means 'push your way into oncoming traffic at all costs.' Stop signs are apparently optional and the preferred place to fix a flat tire or talk to a friend is in the middle of the road. On the other hand, drivers are very courteous—if you can get their attention." Barry Hammel's email is barry.hammel@mobot.org.

Michael Grayum

Curator Michael Grayum started working in Costa Rica even before he got out of grad school. "By the time I obtained my Ph.D. [at UMass—Amherst], I'd already been there a year and a half." He started work immediately thereafter as the Garden's resident collector, an occupation he describes with humor as "Collect all day, press specimens and take notes all night. Repeat ad infinitum." Now based in St. Louis, Grayum is sanguine about the impending publication of so many years' work, especially because the single largest plant family in Costa Rica—orchids—is complete. "Besides being far and away the largest plant family in Costa Rica, with about 1320 species, Orchidaceae is a problem because new species are continually being discovered—a steady average of about 20 new species per year from Costa Rica alone. It has been a tremendous challenge to incorporate them all up until the final moments, and it will be a huge relief to have this family behind us." Michael Grayum's email is michael.grayum@mobot.org.

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November–December 2002

For information on making a gift to the Tribute Fund, please call the Development Office at (314) 577-5120.

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By leaving a bequest to the Garden, you create a legacy that will benefit others for generations to come. If you have already included the Garden in your estate plans, we hope that you will share this information with us. We would like to express our gratitude and welcome you into the Heritage Society. Of course, your wishes for anonymity are respected.

Please call Judi Schraer, planned giving officer, at (314) 577-9455 for further information and a complimentary brochure.

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All proceeds benefit the Garden.

Special offers and events!

Throughout Apr.
Exhibit in the Garden Gate Shop of works by Mary Dee Schmidt, watercolor artist and long-time Garden watercolor instructor. See Mary Dee and her watercolor students painting in the gardens this spring every Monday from 9 a.m. to noon.

Sat., Mar. 8
StoryTime, 11 a.m.—
There's a Hair in my Dirt and *The Rain Stick: A Fable*

Lecture and book signing:
Ellen Dugan signs her new book *Garden Witchery: Magick from the Ground Up*
2 p.m. lecture, 3 p.m. book signing

Thurs.–Sun., Mar 13–16
Members receive 20% off on all orchids and orchid-related merchandise.

Wed., Mar. 19
Members Day: 11 a.m.,
Remains of a Rainbow book signing

Wed., Sat., and Sun., Mar. 19, 22, and 23
Food tasting, 1–4 p.m.

Wed.–Sun., Mar. 19–23
Members receive 20% off all food.

Sun., Mar. 30
Lecture and book signing:
Eric Sandweiss signs his book *St. Louis in the Century of Henry Shaw: A View Beyond the Garden Wall*, 1 p.m.

Wed.–Sun., Apr. 9–13
Members' Day: Members receive 20% off all seeds, trellises, gardening books, and garden tools.

Sat., Apr. 12
StoryTime, 11 a.m.—
Peter Rabbit and The Shaman's Apprentice: A Tale of the Rain Forest

Sat.–Sun., Apr. 12–13
Members receive 20% off all children's merchandise, including books.

Sat.–Sun., Apr. 26–27
Members receive 20% off all bulbs, bulb tools, soil, and bulb-related books.

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members' entry court

Bricks donated to the Members' Entry Court at the William T. Kemper Center for Home Gardening between December 1, 2002 and January 31, 2003.

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estate planning

PHOTO COURTESY CAROLE VOHSEN

A Secret You Should Share

Jane Guess was a successful businesswoman, active in her church and college sorority, an avid bridge-player—and when she passed away last year, it was discovered that she was also a donor to the Missouri Botanical Garden.

"Jane loved the Garden," says Carole Vohsen, one of Guess's friends. "And she got me involved here too." Vohsen is a former co-chair of the Membership Services Desk and long-time friend of the Garden.

Guess completed Master Gardener training and volunteered for almost 10 years at the Kemper Center for Home Gardening before declining health kept her away. "Jane was one of our very first volunteers when we opened in 1991," says Dr. Steve Cline, William T. Kemper Manager of the Kemper Center. "She was a whiz with computers and collected much of the baseline information that is available today at our interactive work stations."

Jane's commitment to the Garden lives on through her work at the Kemper Center, but now too through the financial gift in her will. "Jane is typical of many generous people who leave an estate gift to the Garden," says Planned Giving Officer Judi Schraer. "We just wish we could have thanked her while she was still with us."

If you have made provisions for the Garden in your will, or if you'd like to find out about the tax benefits of doing so, share your secret with us and contact Judi at (314) 577-9455.

Daffodil fields at the Shaw Nature Reserve
Photo by Jack Jennings.

I wandered lonely as a cloud / That floats on high o'er vales and hills, / When all at once I saw a crowd,
A host, of golden daffodils, / Beside the lake, beneath the trees, / Fluttering and dancing in the breeze.

-Wordsworth

contact information

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Garden Café: *Daily, 9 a.m. to 5 p.m. (Wed. & Sat. from 7 a.m.)*	(314) 577-5196
Garden Gate Shop: *Daily, 9 a.m. to 5:30 p.m.*	(314) 577-5137
Horticulture Answer Service: *Weekdays, 9 a.m. to noon*	(314) 577-5143
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Senior Programs:	(314) 577-9506
Shaw Nature Reserve:	(636) 451-3512
Tribute Gifts:	(314) 577-0291
Volunteer Services:	(314) 577-5187

Hours
The Garden is open every day except Christmas, 9 a.m. to 5 p.m. (and Wednesday evenings in summer 2003). Parking is free.

Admission
- Free for members
- General admission is $7
  $3 for St. Louis City/County residents.
- Senior admission (65+) is $5
  $1.50 for St. Louis City/County residents.
- Children age 12 and under—free.
- Admission free to St. Louis City/County residents until noon every Wednesday and Saturday throughout the year, (except Japanese Festival and Best of Missouri Market).
- Special events may require an additional fee.

Editor: Elizabeth McNulty
Designer: Ellen Flesch
Cover photo: Jack Jennings

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Missouri Botanical Garden

Bulletin

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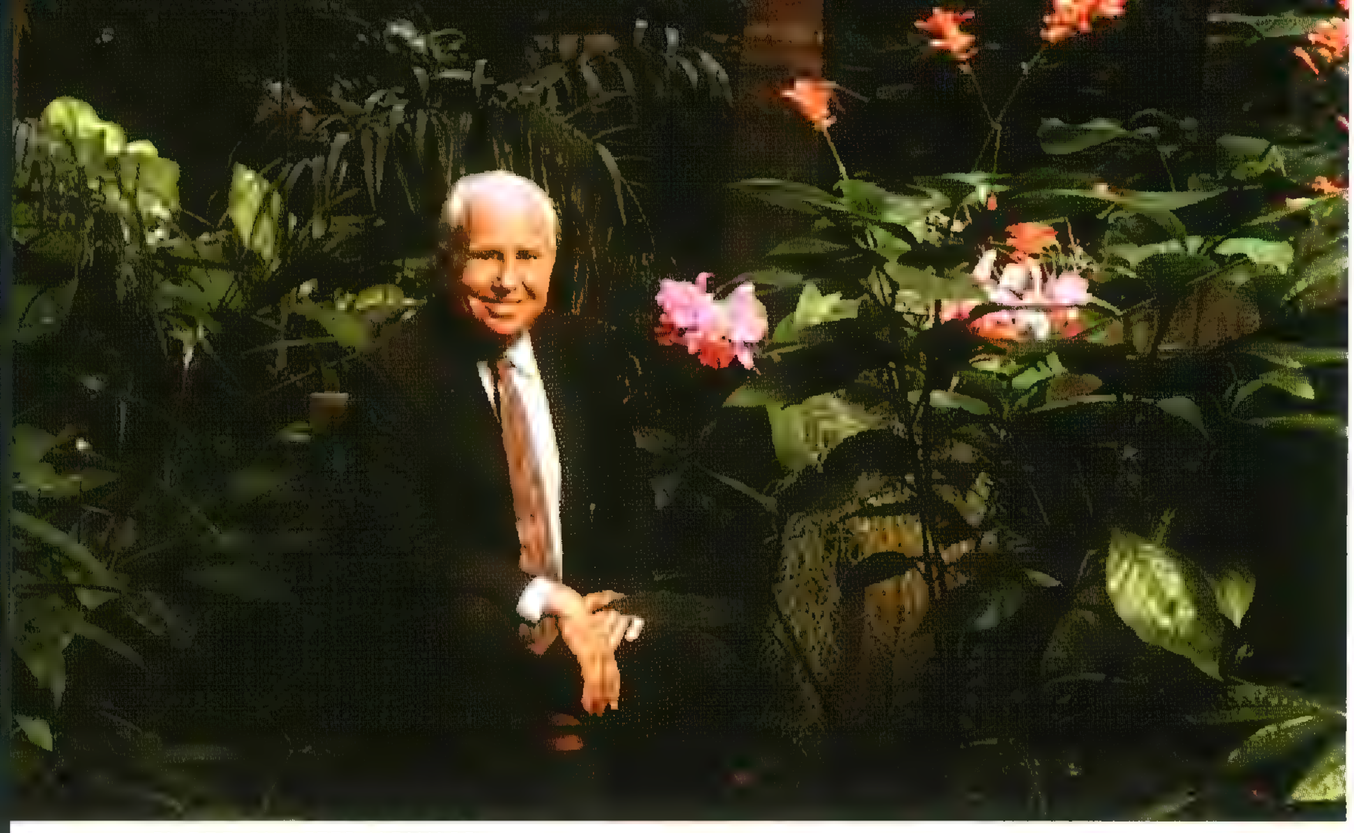

PHOTO BY PETER HOWARD

To discover and share knowledge
about plants and their environment,
in order to preserve and enrich life.

–mission of the Missouri Botanical Garden

from the director...

It is time to garden. In fact, there isn't a time of the year when some of us aren't worrying about, and working in, our gardens. That's the way it is at the Garden too, where our horticulturists leave not a leaf unturned, a pot unfilled, a bed unmulched. The results show their dedication, not only at the Garden, but at Shaw Nature Reserve, the Sophia M. Sachs Butterfly House, and the EarthWays Home outdoor city and water gardens.

It also shows the dedication of our volunteers, without whom we could not show our "new clothes" each season, and the dedication of all of you—our members—who provide the support that enables us to plan, to grow plants, to water, to install and maintain the infrastructure so heavily used each day without which our splendid displays would be impossible.

There are no large grants for these functions, but there have always been the helping hands from our members and other friends. We will be explaining our needs for the future in the forthcoming weeks and months, and I know, as always, we can depend on your help and advocacy. Above all, bring your family and friends to our campuses: the experience will bring you back again and again and convert your friends to membership.

I am delighted to welcome three new trustees to the Garden. They are Hal A. Kroeger, long-time devoted friend and committed to the issues of biodiversity and conservation; the same is true of Herbert D. Condie III. Both Hal and Herb have played leading roles in the civic community. Dr. Werner Greuter, Director of the Botanischer Garten and Botanisches Museum Berlin-Dahlem and professor of the Freie Universitat, joins the board as an honorary trustee.

We are honored also by Dr. William Danforth's acceptance of the Henry Shaw Medal, the highest honor our Garden has to bestow. The medal will be presented to Dr. Danforth at the Henry Shaw Dinner on May 7. Few people have done so much for plant and life sciences and bio-medical enterprises in St. Louis.

Enjoy our gardens here, in Gray Summit, in Faust Park, and in Grand Center. There is real pleasure in the rewards of watching them take shape and in transferring to your homes the knowledge and advice of our horticulturists.

Peter H. Raven

Peter H. Raven, *Director*

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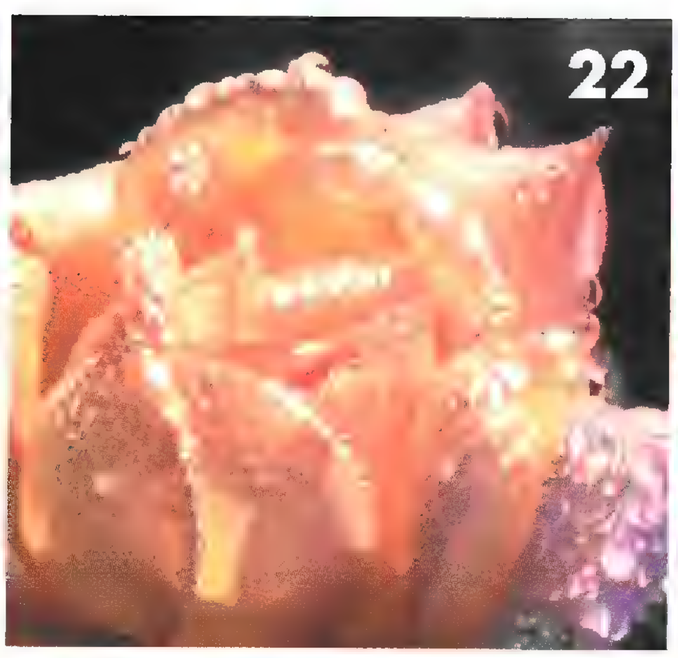
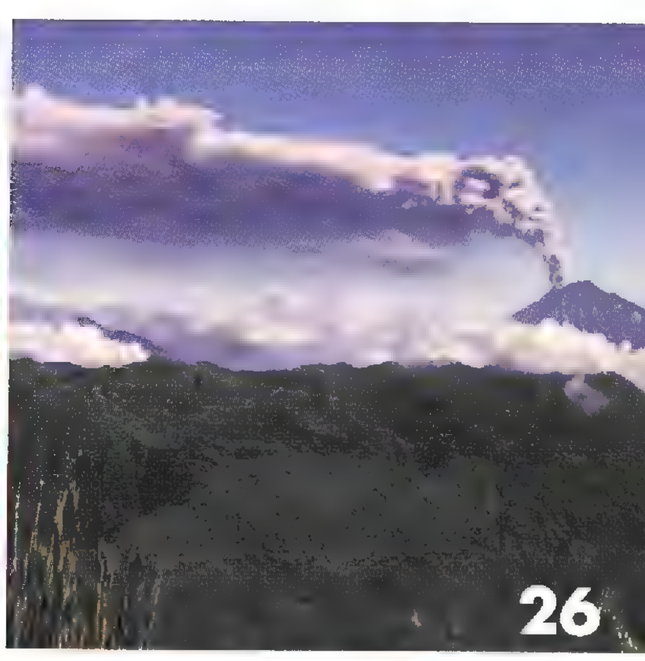
Missouri Botanical Garden





editor's note...

Eight weeks in the Garden—that's the time period covered by each Bulletin. *But this eight weeks—the eight weeks of high spring—are unmatched for color, variety, and velocity of change. Otherwise metaphorical terms like "burst" or "explosion" seem more literal as bulbs shoot up overnight, buds unfurl, leaves leaf. The sequence of change is rapid: I walked across a carpet of crabapple petals today beneath a newly green-leafed tree. Yesterday it was covered in blossoms; last night it rained. If you snooze, you lose, this time of year. Here's what you might see if you visit once a week for the next eight:*

- *flowering dogwoods and azaleas in full bloom, tree peonies at peak in the Grigg Nanjing Friendship Garden,*
- *showy wildflowers in the English Woodland Garden, bearded iris abloom in the Goodman Iris Garden*
- *peonies in peak bloom in the Japanese Garden, spring wildflowers in the Shoenberg Temperate House*
- *rhododendrons and more peonies, dogwoods, and iris*
- *Bottlebrush buckeyes—a signature plant of the Garden—are at peak bloom on either side of the tram path just south of the Climatron.*
- *Daylilies at peak bloom*
- *Roses, roses, roses, and more roses.*

Whether you're bringing mom for our annual luncheon and fashion show, your pals to the Whitaker Music Festival, or the kids to take in Chinese Culture Days, the Garden is in high gear. Don't miss out.

Elizabeth McNulty, editor
elizabeth.mcnulty@mobot.org

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MISSOURI BOTANICAL
MAY 1 1 2003
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PHOTO BY DIANE WILSON

spring into summer

Celebrate the rites of spring and see the Garden in full bloom during the height of the season this May and June. Bring the friends, neighbors, kids, and grandkids, to witness the blooming of over 90,000 bulbs in all the glorious colors of the rainbow. Find the Japanese Garden in a riot of azaleas and peonies. Stop by the Kemper Center for Home Gardening to get your questions answered and for inspiration in your own backyard. And then, in late May, it's time for roses. There's always something in bloom at the Garden—just check the Plants in Bloom section of our website—and it's always bound to be spectacular.

Keeping pace with the exuberance of nature this time of year, the Garden offers an abundance of programs and events, and starting Memorial Day, longer hours on Wednesdays. Whether it's the nine (count 'em, nine!) free concerts of the Whitaker Music Festival that attract you, or the allure of a twilight stroll among the roses, it's **Wonderful Wednesday** evenings all summer long.

In late spring, the trees are leafing out, and the English Woodland Garden starts to take on its summer shade, just in time for **English Country Faire** the first weekend in May. Regional dance groups and the St. Louis English Country Dancers perform, and student actors from the Shakespeare Festival of St. Louis will perform "Quick-Brewed Macbeth" at 1 p.m. on Saturday on the lawn near the Chinese garden. And don't miss the popular Maypole dancing at 11 a.m. and 3 p.m. on Saturday, and then again at 2 p.m. on Sunday.

Chinese Culture Days

Daring acrobats, puppet storytellers and a 70-foot dancing dragon are among the unique entertainment, traditions, and pageantry of the Far East presented during Chinese Culture Days, May 17–18. This year's theme is "Celebrating unity through diversity."

Dragon and lion dancers kick off the festivities at 10 a.m., then return at 2 p.m. to lead the grand parade of acrobats, folk dancers, drummers, and martial artists.

This year's celebration features puppet shows, a part of ancient Chinese history and culture for more than a thousand years. A family of puppeteers will tell stories through traditional Chinese Opera movements and music in Shoenberg Auditorium on Saturday at 11:30 a.m. and 3 p.m. and again on Sunday at noon and 1 p.m.

The New Shanghai Circus Troupe returns to entertain visitors with their creative, gravity-defying feats of athleticism during five outdoor performances throughout the weekend. Local T'ai Ji masters perform the art of mind-body meditation and self-defense, while martial artists show their skills with swords, knives, sticks, and spears.

Artists demonstrate calligraphy and Chinese painting. A musical fashion show will present historical and traditional ethnic Chinese costumes. Guided tours of the Margaret Grigg Nanjing Chinese Garden and authentic Chinese cuisine and cooking demos round out the experience.

Children can join in "Year of the Ram" festivities and create puppets and noisemakers; learn to use chopsticks or speak Chinese; play Chinese games; and have their faces painted, among other activities.

Chinese Culture Days
Sat. and Sun., May 17–18
10 a.m. to 5 p.m.
$7 adults, $5 seniors
free to members and
children age 12 and under

PHOTO BY MARY BUTKUS

Whitaker Music Festival

Nine for nine! Now in its ninth year, this special summer series is bigger and better than ever, with offerings stretching across nine weeks. Whitaker Jazz became the Whitaker Music Festival last year, and with the name change came expanded offerings and more variety. For nine weeks throughout June and July, visitors will enjoy live outdoor concerts on the gorgeous Garden grounds.

Did you know? The Whitaker Music Festival is one of the few opportunities when visitors are invited to picnic in the Garden. So pack a snack and spend the evening listening to music under the stars. A cash bar with light fare will be open during the concert.

Admission to the Whitaker Music Festival is free, thanks to the generous support of the Whitaker Foundation, which supports the arts and parks in St. Louis to promote common heritage, while celebrating diversity and encouraging the vitality of the community.

June 4	St. Louis Stompers, dixieland jazz at its best
June 11	Hard Bop Heritage play hard bop jazz
June 18	Internationally renowned jazz pianist Peter Martin
June 25	Willie Akins, a tribute to a St. Louis treasure
July 2	Vargas, jazz on the cutting edge
July 9	Farshid Etniko, Latin Jazz with a Persian flavor
July 16	Raven Moon plays bluegrass, folk, and more…
July 23	Ralph Butler Band, Public Entertainer Number One!
July 30	Dan Rubright, jazz guitarist

Whitaker Music Festival
Nine weeks of Wednesdays
June 4 to July 30
7:30–9:30 p.m.
free to the general public

Inside out

Garden Gate Shop Event

Don't miss this special opportunity at the Garden Gate Shop. "Inside Out" presents decorating ideas for outdoor living spaces so fabulous, you'll never want to leave your backyard. Decorator concepts for themed gardens include:

- Asian garden, complete with water garden plants and accents
- South of the border, with bold Mexican furniture and pottery
- A trip to the islands, with exotic wicker and tropical plants

See innovative interpretations of ornamental glass for your outdoor space, and new ways to bring color and fun into your garden. And it's all 20 percent off for members!

Inside Out
Tues. to Sun., May 13–18
9 a.m. to 5 p.m.
Garden Gate Shop and
Grigg Lobby

special for members...

Mother's Day

Don't miss the annual Mother's Day Luncheon and Fashion Show sponsored by Dillard's. KMOV-News 4 anchor Vickie Newton hosts this year's event with a genteel, English tea-time theme. Ladies and gents will lunch al fresco under the tent on Garden grounds and be treated to the latest in spring and summer fashions. There are also attendance prizes and a cash bar. Tickets are $50 per person, and seating is limited. Please call (314) 577-9500 to reserve your table with mom and friends.

If you can't attend, but would like to make a Garden tribute in honor of someone special in your life this Mother's Day, please contact Amy Hancock at (314) 577-0206. And don't forget: a Garden membership makes a wonderful gift! Why not give mom a gift she can enjoy all year long? You'll receive a special gift just for her. Call (314) 577-5118.

Mother's Day Event
Friday, May 9
11:45 a.m.
members and their guests

Rose Evening

This wonderful evening signals the official start of summer at the Garden. Members are invited to come for dinner and enjoy live music and a cash bar. Roses rule the night—from twilight strolls through MBG's fabulous rose gardens, to tips on rose care from MBG experts and the Rose Society of Greater St. Louis. For this evening only, the Garden Gate Shop will offer a 20 percent discount on all rose books and products. Participants will take home one long-stemmed rose as a souvenir, and a limited number of guests will receive fabulous attendance prizes courtesy of sponsor Tiffany and Co. A gourmet buffet dinner is available from the Garden Café for $23.95 per person. Reservations are required for dinner, so please call (314) 577-9500 by May 16.

Rose Evening
Thursday, May 22
5:30 to 8:30 p.m.
members and their guests

Memorial Weekend

The Garden and the Sophia M. Sachs Butterfly House are teaming up to remember our members this Memorial Day with a special deal. All weekend long, members of each institution will receive free reciprocal admission to the other with presentation of a valid membership card. For example, Garden members can load up the kids, grandkids, and neighbor's kids and head over to Faust Park to catch the fantastic beetles exhibit of the Spectacular Spineless Species series—free! Regular Butterfly House admission is $5 for adults and $4 for children ages four through 12. Of course, upper level Garden members and their guests are always admitted free to the Butterfly House. To upgrade your membership, call (314) 577-5118.

Remembering Members
Friday to Monday, May 24–26
9 a.m. to 4 p.m.
members and their guests

PHOTO BY TIM PARKER

Musical Evening

Bring a picnic supper, blankets or lawn chairs, and enjoy an evening of music under the stars with the Gateway City Big Band. If you love Jazz in June, but appreciate a more intimate gathering, Musical Evening is for you. Enjoy the swinging jazz of the big band and a demonstration of swing dancing by local high school students. The concert begins on Spoehrer Plaza at 7 p.m., and limited concert seating is available on a first-come, first-served basis. Cash bar.

Musical Evening
Friday, June 6
5:30 to 8:30 p.m.
members and their guests

membership benefits

Free Admission to the Garden, including the Garden Café, Shaw Nature Reserve, and EarthWays Home for two adults and all children under age 18 for one year. Discounts on admission to Garden public events.

Free Publications including the *Bulletin*, 6 issues a year filled with information and activities at the Garden, Shaw Nature Reserve, and Sophia M. Sachs Butterfly House, plus home horticulture advice from the experts at the Kemper Center for Home Gardening.

Flower Show Parties Previews of the annual holiday flower and orchid shows.

Monthly Members' Days Special programs presented exclusively for Garden members and their guests feature free tram rides, 10% off in the Garden Café, and special discounts in the Garden Gate Shop.

Discounts Members receive 10% off all purchases in the Garden Gate Shop, with annual spring, fall, and holiday sales of 20% off, plus special rates on selected educational courses.

Members' Travel Special trips explore public and private gardens around the world.

Reciprocal Admission to over 150 selected botanical gardens around the country.

Discounted Subscription Rate for *St. Louis Homes & Lifestyles*.

PHOTO BY SCOTT WOODBURY

Moving History

In December, the Shaw Nature Reserve added another historic structure to the grounds. Built in 1939 along the newly christened Henry Shaw Gardenway, the tidy stone bus shelter had recently been threatened with demolition by the expansion of I-44. Representatives from the Reserve, interested agencies, local banks, and the Missouri Department of Transportation banded together to save it. "The Highway Department was going to demolish it," says Marilyn Leistner, vice president of the Henry Shaw Ozark Corridor Foundation, "but I really wanted to see it preserved. The best place to put it, given the Shaw history, was at the Shaw Nature Reserve."

Once the plan was put in motion, so was the shelter. Expert House Movers of Defiance, MO, planned the relocation, which found the 60-ton stop moving at 10 mph down the highway. "It's a really heavy building for how small it is," says mover John Matiyko. "It's only 12 feet by 16 feet, but it weighs 120,000 pounds. By comparison, your typical 2-to-3 bedroom, frame ranch house only weighs about 60,000 pounds."

For 65 years, the bus stop provided shelter for children on the south side of Old Highway 66. Now settled on the Reserve beneath a grove of swamp white oaks and surrounded by tall prairie wildflowers, the quaint building will serve as a "bus stop" for the Reserve's tour vehicles and as a shelter for hikers.

PHOTO BY BRYAN RECKAMP

Portable Fun

Families and Brownie troops can now check out backpacks loaded with activities to inspire learning and discovery at the Garden. Developed by the Education Division with support from the Edward Chase Garvey Memorial Foundation, the three packs present diverse opportunities for families and groups. Current offerings include:

Journey to Seiwa-en: Suitable for children ages 5–10, this pack includes materials help a small group of up to five people better understand and appreciate the Japanese Garden. Children rake their own miniature gravel garden, build a pagoda of small blocks, and learn about giant koi along the way. This pack is free with regular Garden admission or membership, but a valid driver's license is required for checkout. Reservations are not necessary.

Try it! Brownie leaders can check out one of two *Try it!* backpacks for a troop visit. Each 90-minute, self-guided Garden tour fulfills badge requirements. Kits are designed for grades 1–3 and can accommodate up to 20 Brownies with adult chaperones. *Try it! Eco-Explorer* encourages Brownies to explore relationships in nature. The *Try it! Plants* kit focuses on the plant world. Reservations are required, so call (314) 577-5140 today. A $10 rental fee is charged per troop, in addition to regular Garden admission. A valid driver's license is required for checkout.

Folk Art of Latin America

Now in Monsanto Hall of the Ridgway Center: they're cheerful, colorful, and meaningful. Collected from the great folk artists of the Caribbean, Central and South American, "Latin American Folk Art" speaks directly to the Garden's mission—to discover and share knowledge about plants and their environment, in order to preserve and enrich life—representing, as it does, the daily interactions of people and plant life. Curator Laurie Griesedieck Carmody of Galerie Bonheur assembled and researched the show, and a portion of the proceeds from artwork sales benefits the Garden. Sponsored by Lindell Bank; Augusta, Les Bourgeois, and Stone Hill wineries; and Midtown Printing. The exhibit runs through Friday, June 6.

great garden contest

The Garden again joins forces with the St. Louis *Post-Dispatch*, KTVI-Fox 2, and the Bug Store to recognize the region's best home gardens in the Great Garden Contest 2003. All entries must be postmarked by June 14, and stories on the winners in six categories will be published through July and August in the *Post-Dispatch* Lifestyle magazine. Watch the newspaper for details.

Got Culture?

Beginning this May, the Garden and KETC-Channel 9 are partnering to make it easier for kids to learn about global diversity. Channel 9's new children's website, KETC Kids, will feature the theme of "Different Cultures" throughout May, with a section on the Garden's Chinese Culture Days. Not only will visitors learn more about this event, but they will also find related online games to play, books to read, and activities to do at home—all at www.ketc.org.

PHOTO BY KAREN HAGENOW

Picture Perfect

On March 20, Dr. Patricia Raven presented prizes to the winners of the Garden's first annual botanical photography competition. Rebecca Barnard of St. Louis received top honors among 159 Adult category entries for "Hydrangea Leaves," a finely detailed black-and-white portrait of foliage. Lindy Spurgeon of Glencoe, Missouri, won first place in the Young Photographers category. Photographs by all finalists may be seen online at www.mobot.org.

The contest was held in conjunction with the "Remains of a Rainbow" photography exhibition by award-winning nature photographers David Liittschwager and Susan Middleton. The judges included Jack Jennings, the Garden's master photographer for 25 years; Bryan Reckamp, graphic designer in the Garden's Communications Division; and Guy Phillips, host of the Y98 (KYKY-FM) "Phillips & Co. Morning Show."

First, second, and third place contest winners were invited to a private lunch with photographers Middleton and Liittschwager. First place winners received an autographed copy of the *Remains of a Rainbow* book and a one-year membership to the Garden. All finalists received admission passes to the Garden, an award ribbon, and a gift from the Garden Gate Shop.

Picture above. Front row, from left: Rebecca Barnard, David Liittschwager, Maggio Otto, Dr. Patricia Raven. Back row, from left: Bryan Reckamp, Pat McSpadden, Susan Middleton, Anton Troianovski, Jack Jennings.

PHOTO BY REBECCA SUCHER

In Our Own Backyard

The Garden's research operations around the globe are working with local people to conserve humankind's precious plant resources, but did you know there are many rare and endangered plants right here in the United States? The Center for Plant Conservation, headquartered at the Garden, maintains the National Collection of Endangered Plants, a bank for seeds and other materials from the most imperiled of these plants. With a mission not only to conserve but also to restore the rare native plants of the U.S., the CPC's network of 32 institutions nationwide works to reintroduce these plants to the wild. The Garden's conservation biologist Kim McCue has had great success reintroducing Pyne's ground plum in Tennessee, where last fall, the reintroduced plants set seed in the wild. The CPC website, accessible from the Garden's www.mobot.org, includes plant profiles of most of the National Collection Plants, along with stories of their survival. Several of the plants, not easily found anywhere else in the world, are on display at the Garden. Check them out.

Mahabo Forest Conservation

The Garden's biggest program outside the U.S. is on the island nation of Madagascar, a biodiversity hotspot where for the last 25 years, botanists have worked to find and classify unique and often endangered plants. Last year with the support of the Beneficia Foundation and the Garden's Center for Conservation and Sustainable Development, Garden Malagasy staff began a collaborative project with local people to conserve a fragment of littoral forest in the southeast of the country. Littoral forest—a type of humid forest which grows on sand—is perhaps the most threatened habitat type in Madagascar. It is also one of the most important botanically, being rich in endemic (native) species. In February, Garden staff joined local people to plant 1,500 fast-growing Eucalyptus trees to help provide the locals with an alternative source of fuel and timber. Over the next five years, this program intends to plant tens of thousands of trees at the site, including more fast-growing fuel species, fruit trees, and native species.

A Plant by Any Other Name

Scientists estimate that there are between 250,000 and 425,000 unique plant species in the world, but there are more than one million plant names! Difficulties of geography and information transmission over the centuries have resulted in multiple names accruing to the same species of plant—each time a certain plant was found in a new location, it was often awarded a new name. Researchers screening plants for potential medical or nutritional use have difficulty tracking how many species they have studied. It's also hard to know for sure if a location is the only source of a given plant, and thus could be endangered.

In March, the Missouri Botanical Garden announced the "World Plant Checklist" project. In conjunction with the two other top botanical research centers in the world, the New York Botanical Garden and Royal Botanic Gardens—Kew, Garden scientists will work to identify every flower, fern, grass, moss, and tree in the world and determine its rightful name. This effort is anticipated to take a minimum of 10 years, and costs are estimated at $100 million. If you are interested in helping this valuable endeavor, please call Patty Arnold at (314) 577-5120.

2003 Henry Shaw Medal

On Wednesday, May 7, Dr. William H. Danforth will become the 56th recipient of the Garden's highest honor, the Henry Shaw Medal. A native St. Louisan, Dr. Danforth completed his medical studies at Harvard before returning to teach at the Washington University Medical Center. He served as the university's 13th Chancellor from 1971 until his retirement in 1995. For over 30 years, Dr. Danforth has been an extraordinary supporter of the Garden and botanical research. In 1998, he envisioned the independent research institution that would become the Donald Danforth Plant Science Center, where he is currently Chairman of the Board.

The Henry Shaw Medal has been awarded since 1893. It honors those who have made a significant contribution to the Missouri Botanical Garden, botanical research, horticulture, conservation, or the museum community.

The Henry Shaw Dinner is the Garden's grandest gala of the year, and is open only to upper-level members. It's not too late to secure your invitation; upgrade your membership today by calling (314) 577-5118.

2002 annual report

The Missouri Botanical Garden 2002 Annual Report, *The Greatest Gift*, is now available. To request one, call (314) 577-5120.

Corporate Partners

The Corporate Partners program strengthens the relationship between the Garden and the corporate community in the metropolitan region. Become a Corporate Partner today! For information, call Jamie at (314) 577-9513. We are pleased to recognize corporations who have recently joined, renewed, or upgraded their Corporate Partner membership.

Supporter level ($1,000)

Fabick Companies
Nicholas Applegate

new trustees

Herbert D. Condie

Herbert D. Condie III is a native St. Louisan who attended Country Day School and Portsmouth Priory School in Portsmouth, RI. After graduating from Brown University and Washington University, Condie spent 22 years as Vice President at D'Arcy Masius Benton & Bowles. Today, he is Chairman of Eidnoc Enterprises, a financial consulting firm. Bert and his wife Karen have been outstanding supporters of the Garden for over 20 years. They have been members of the Peter H. Raven Society since 1999.

Hal A. Kroeger, Jr.

Hal A. Kroeger, Jr. is a native New Yorker who attended The Hackley School in Tarrytown, NY. After receiving his undergraduate degree from Princeton University and his MBA from Harvard, Kroeger founded Distribix, Inc., a national paper distributor. Today, he is Chairman of Capital Private Wealth Management Equities, a financial consulting firm. Hal and his wife Carole have been ardent supporters of the Garden since 1978. Hal is the incoming chairman of the International Center for Tropical Ecology and is a past chairman of the Metro Zoological Park and Museum District.

Prof. Werner Greuter

Professor Werner Greuter is the Director of the Botanic Garden and Botanical Museum Berlin-Dahlem, and a professor at the Free University of Berlin. A Swiss national, Dr. Greuter completed his Ph.D. in Zurich before serving as a Curator of the Geneva Garden and Conservatory. His research interests are in the taxonomy and biogeograpy of vascular plants of the Mediterranean, especially Greece. He serves as one of the two Honorary Trustees mandated by Shaw's 1889 Will, in the capacity of scientific advisor to the Board.

Butterfly House

PHOTO BY MARK DEERING

A division of the Garden since 2001, the Sophia M. Sachs Butterfly House features butterflies in free flight inside a glass conservatory as well as outdoor habitats. Located in Faust Park, Chesterfield, MO, the Butterfly House is open Tuesday through Sunday 9 a.m. to 4 p.m. (5 p.m. in summer). For information, call (636) 530-0076.

Walking and Preying in the Insect Kingdom

Get the skinny on 'sticks and mantids at the third installment of the Spectacular Spineless Species series at the Sophia M. Sachs Butterfly House & Education Center this June. Those armored arthropods, the beetles, are on display through May, but then make way for something leaner when the walkingsticks and mantids exhibit rolls in with live animals and little-known facts about these usual insects.

Walkingsticks have long fascinated humans for their bizarre form and regenerative powers. As the name implies, these insects use camouflage as a defense against predators, even swaying as they move to resemble more closely twigs in the breeze. They have other defenses as well. Of the 2,500 species, some are capable of spraying a toxic chemical which causes temporary blindness in humans, while others have spines so sharp they have been used as hooks by fishermen in New Guinea. The largest insect ever recorded is a walkingstick from Borneo, which measured a whopping 20 inches from leg tip to leg tip.

Order Mantodea is derived from a Greek word meaning "soothsayer" or "prophet," perhaps because mantids wait so patiently, almost meditatively, while preparing to ambush their prey. Mantids are one of the few insects able to move their heads from side to side and follow objects that move before them, and can learn from repetitive behavior. There are 1,800 species in eight families of mantids—most are found in Africa—and they range in size from one half inch to six inches.

An adult lecture will be presented on Saturday, June 21 at 2 p.m. and a children's class will be held on Saturday, July 12 at 10 a.m. Both are free with admission to the Butterfly House and with upper-level Garden membership.

paradise beckons

Leave the work-a-day world behind on Friday, May 30, and enjoy a scandalously romantic evening at the Escape to Paradise benefit party. Your trip begins in a lush tropical conservatory where more than a thousand jeweled butterflies float your cares away. It's a hushed and secret moment, seen only by a special few, as butterflies settle down for the night. The adults-only evening includes food, cash bar, music, and dancing from 6 p.m. until midnight. Proceeds benefit the Butterfly House. Reservations for Escape to Paradise are $50 per person (Garden members $45). Reservations must be prepaid by May 24. For more information or to make reservations, call (314) 361-1794.

Hots and Brats for Father's Day

Kids, bring your Dad to the Butterfly House on Sunday, June 15 for a daylong celebration of Father's Day filled with fun and food. There will be bratwurst, hot dogs, soda, and assorted treats. Kids can take their pick of challenge activities, win prizes, and (maybe) beat Dad at his own game. The popular golf challenge event will be back, so Dad has another chance this year! And it's free (except for food) with regular admission. The fun goes on throughout the day.

Mother's Day Brunch al Fresco

Enjoy Mother's Day brunch catered by Ces & Judy's at the Butterfly House. Dine under the pavilion on Emerson Lakeside Terrace overlooking the ponds and gardens of the Native Habitat. Reservations are available for either 11:30 a.m. or 1 p.m. seatings. Cost of the brunch is $24.95 for adults and $12.95 for children and includes admission to the Butterfly House. Souvenir photos will be available for a small fee at the brunch. Seating is limited and advance reservations are required. Please call (314) 361-3365 for reservations.

Fabric and Flora

Each spring, Shaw Nature Reserve offers a magnificent display of native wildflowers of the Ozark foothills. This May and June, visitors have an opportunity to see some cultural riches of the Ozarks as well, during the exhibition "Fabric and Flora: Treasures of the Ozarks." A number of 19th and 20th century Ozark quilts, some of museum quality, will be exhibited in the Bascom House, and later sold with proceeds benefiting the Reserve.

The quilts are from the collection of Ken Fiebelman, owner of the Ozark Information Center, Museum, and Antiques in Salem, MO. A Missouri state representative from 1985 to 1994, Fiebelman is an Ozark historian and a nationally recognized collector of Ozarkiana. Call (636) 451-3512 for more information.

Quilt Exhibit
Sat., May 3 through Sun., June 29 • 10 a.m. to 4 p.m.
$3 adults, free for children age 12 and under and Garden members

grow native!

Pale purple coneflowers, blazing stars, native grasses—if you've longed to include them in your garden, the Shaw Nature Reserve's Spring Wildflower Sale is the place to find them. This year, the Nature Reserve teams up with 15 local nurseries to offer hundreds of varieties of wildflowers, ferns, trees, and shrubs to use in home landscaping and to attract birds, butterflies, and other wildlife. Find Missouri native prairie seed; glade, woodland, and wetland plants; pottery, T-shirts, gifts and more. Receive a free plant with your purchase at the Reserve's booth (while supplies last). Over 1,000 wild-at-heart gardeners attended last year, so don't miss out. Call (636) 451-3512 for more information.

Spring Wildflower Sale
Sat., May 10 • 9 a.m. to 4 p.m.

Shaw Nature Reserve

PHOTO BY SCOTT WOODBURY

Established by the Missouri Botanical Garden in 1925, the Shaw Nature Reserve is in Gray Summit, MO, 35 miles west of St. Louis on I–44 (Gray Summit exit 253). In addition to the Whitmire Wildflower Garden, the 2,400-acre reserve is also home to the restored Bascom House (1879) and 14 miles of hiking trails. Grounds are open daily 7 a.m. to one-half hour past sunset. For information, call (636) 451-3512.

Whitmire Wildflower Garden Turns Ten

Over a decade ago, Blanton Whitmire had the idea of a wonderful birthday present for his wife, Peg: a garden of the wildflowers she loved so much. Today, the Whitmire Wildflower Garden includes five acres of planted beds and five acres of prairie, making it the largest display of native plants in the region. Throughout spring and into June the area is a profusion of gorgeous display, with plentiful spots to rest and admire Nature's handiwork.

"I like to think that 100 years from now people will still be enjoying it," says Peg Whitmire.

The garden also serves as a resource for home owners and horticulturists to learn about the application and benefits of native planting.

"Part of our horticultural mission is to promote the use of native plants on a residential and commercial scale," says John Behrer, Director of the Shaw Nature Reserve. "The Whitmire Wildflower Garden is the cornerstone of our efforts, providing a beautiful living example of Missouri's natural heritage."

"Through their generous gift, the Whitmires will enable generations of Missourians to enjoy the spectacular scenery of our native plants," says Garden Director Dr. Peter Raven, "and to learn about native plant communities in the process."

To celebrate the 10th anniversary, the Shaw Nature Reserve is hosting a silent auction of native plants and nature-related items, original photographs and paintings, and wildflower garden walks with experts. In the afternoon, biology professor Dave Tylka will lecture and sign copies of his book, *Native Landscaping for Nature and People*. Native plant experts will offer free landscaping advice; sell seeds, plants, and books; and introduce visitors to a number of local organizations for those interested in growing native. Call (636) 451-3512 for more information.

10th Anniversary Celebration
Saturday, June 21
2–6 p.m., lecture at 4 p.m.
free for members or with paid admission

Tenth Anniversary for Not-So-Secret LREC

Since 1993, the Garden has offered a year-round slate of educational ecology activities for students and adults at a semi-mysterious, undisclosed location. A little over ten years ago, the Garden was asked to join in a partnership to develop, implement, and manage an educational center for ecology in St. Louis County. The Litzsinger Road Ecological Foundation, through its ecology center and via a contract with the Garden, envisioned a site where St. Louis-area teachers could bring students to interact with nature, and explore the phenomena that help explain how natural systems work, without the necessity of an hour-long bus trip. The Litzsinger Road Ecology Center (LREC) in St. Louis County has been quietly serving this purpose ever since.

"It's been a great decade-long adventure," says Celeste Prussia, center director and program manager in the Garden's Education division. "Through this unique partnership, we've been able to offer a positive experience for thousands of kids each year."

Because of the private nature of the facility, teachers must first engage in an on-site orientation and training before they can apply for a class visit. Class visits entail multiple field study sessions so that students can compare the changes seen from one visit to the next. Recording observations and data in their journals, students sharpen math skills as they manipulate the data for interpretation, and gain verbal ability as they discuss the results of the comparisons. Master Ecologist volunteer docents and LREC staff assist the students along the way.

In 2002–3, LREC educators worked toward this concept of "balanced literacy," with particular emphasis on professional development for teachers from Garden Education Compact schools. Forty teachers from Compact schools currently receive training at the Center or through workshops supported by the LREC, and another 20 are engaged in an on-site "inquiry institute" to stimulate students to self-motivated and collaborative learning. Teachers also study application of methods learned in these workshops to best improve mathematical and scientific thinking, reading, and writing.

"The LREC allows the Garden to offer significant educational opportunities in field ecology and professional development," says Dr. Luther Williams, William T. Kemper Director of Education and Interpretation. "It is a truly unique facility in a unique location for the St. Louis region."

Litzsinger Road Ecology Center

PHOTO BY DIANE WILSON

A division of the Garden since 1993, the Litzsinger Road Ecology Center is a private facility in St. Louis County, offering field ecology opportunities for school children and professional development for educators. For information, call (314) 577-5117.

Garden Education Compact

In June 2002, the Garden teamed with St. Louis Public Schools to launch the Garden Education Compact (GEC), a commitment to improving math and science education in neighborhood schools, thereby enhancing the future of tomorrow's leaders and empowering the local community. Throughout the summer, school administrators and teachers developed the GEC plan with leadership from Dr. Luther S. Williams, the William T. Kemper Director of Education and Interpretation. Their revolutionary methodology includes a cutting-edge curriculum infusing technology into traditional learning strategies, meaningful assessments for tracking student progress, and professional development in new techniques for teachers.

In the 2002–3 school year, the GEC focused on training K–5 teachers in the new inquiry-based methods. Garden representatives assisted middle school teachers with hands-on science instruction, and students and teachers alike enjoyed field studies at the Litzsinger Road Ecology Center and Shaw Nature Reserve's Dana Brown Overnight Education Center. Participating schools included Wilkinson Early Childhood Center, Adams Elementary School, Kennard Classical Junior Academy, Mason Elementary School, Meramec Elementary School, Mullanphy Investigative Learning Center, Sherman Community/Elementary Center, Wyman Elementary School, Fanning Middle School, Humboldt Middle School, and Gateway Institute of Technology High School.

Green building practices are demonstrated throughout the Garden's EarthWays Home, headquarters of the Gateway Center for Resource Efficiency. Visitors learn what they can do to reduce environmental impact. See calendar for details.

Building "Green" for People, Planet, and Profit

By Deb Chollet

Buildings...we can't live without them but can we live sustainably with them? Did you know that building construction and operations currently account for nearly 40 percent of total U.S. energy consumption? Buildings also consume 30 percent of our raw materials, produce 30 percent of the country's greenhouse gas emissions, and generate 136 million tons annually of solid waste. The data is daunting, but in response, the green building movement has accelerated across the country and the Garden's Gateway Center for Resource Efficiency is playing a key role in St. Louis.

The U.S. Green Building Council (USGBC) is a Washington D.C.-based nonprofit organization established nearly 10 years ago. The Council focuses efforts of the building design and construction industry to address the impact of their trades on natural resource consumption and overall environmental quality.

Widespread support for the USGBC has grown significantly as a result of their green building rating system, Leadership in Energy and Environmental Design, or LEED™. This system standardized green building principles and practices into a point-based rating which quantifies the level of a given building's "greenness." Points are earned for minimizing site impact, reducing water consumption, increasing energy efficiency of the building systems, selecting environmentally-friendly building materials, and for providing high-quality, healthful indoor air quality.

Gateway Center serves as the organizational hub and chapter headquarters for the St. Louis regional chapter of the USGBC, formally established in December 2001. Membership includes nearly 200 local building design and construction professionals, and the St. Louis region now boasts over 50 LEED™ accredited professionals. Monthly programs feature speakers on the values and techniques of green and sustainable buildings, and provide valuable networking opportunities. There are currently four key building projects formally registered for LEED™ certification in the St. Louis area, including the Garden's new Commerce Bank Education Center. Many other projects are incorporating LEED™ criteria into their plans, independent of the registration process.

Overall, compliance with green building standards is proving profitable as well as environmentally sound. When less material is used to construct a building, material costs go down. Systems that require less energy to run cost less to operate. Buildings that produce less waste pay lower disposal costs. Increased use of daylight reduces lighting bills and fixture expenses, and has proven to provide more productive work and learning environments. Now these are accomplishments we can all live with!

EarthWays Home

A division of the Garden since 2000, the Gateway Center for Resource Efficiency is headquartered in the EarthWays Home, a century-old Victorian house renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. Located in the historic Grand Center theater district at 3617 Grandel Square. Tours are available on the third Friday and Saturday of each month. Call (314) 577-0220.

Green Building at MBG

As a core mission value, the Garden has followed green building tenets for several years. Building and maintenance staff seek continually to improve operational efficiency with energy-efficient lighting, added insulation, and water-efficient plumbing. The Monsanto Center, opened in 1998, was celebrated as one of the first sustainable buildings in the region. Building shape and site orientation maximized the use of daylight and energy-efficient lighting. Building materials included recycled and rapidly renewable content, and Earth-friendly paints and adhesives were used to protect indoor environmental quality. At Shaw Nature Reserve building projects also minimize cost and environmental impact. Salvaged and recycled materials were used in construction of the historic log lodges of the Dana Brown Overnight Education Center. Bascom House has ground-source heating and cooling, and the SNR entrance sign is lit by photovoltaic solar power.

PHOTO BY DIANE WILSON

Deborah Chollet

Director of the Gateway Center for Resource Efficiency, Deborah is a LEED-accredited professional, coordinator of the USGBC-St. Louis Regional Chapter, and director of Garden's Gateway Center for Resource Efficiency. She has recently received the 2003 St. Louis Environmental Excellence Award. To learn more, contact Deborah.Chollet@mobot.org or call (314) 577-0279.

May

Register now for the Summer Youth Programs.
Kids can explore the living world with fun, science-oriented activities at the Garden in St. Louis, Shaw Nature Reserve in Gray Summit, and Litzsinger Road Ecology Center in Ladue. For information, log on to www.mobot.org/education, e-mail summeryouthprogram@mobot.org, or call (314) 577-9506.

Now through May 31
Beetles! on now as part of the "Spectacular Spineless Species" series. Activities, games, and displays. Tues. to Sun., 9 a.m. to 4 p.m. BH. $

Now through June 6
Folk Art of Latin America exhibit presents colorful, primitive paintings by Caribbean, Central and South American artists. 9 a.m. to 5 p.m. RC.

Thurs., May 1
Signature Plant Sale. 9 a.m. to 4 p.m. Horticulture greenhouse complex.

Thurs. & Fri., May 1 & 2
St. Louis Storytelling Festival.
The Garden is a key site in this city-wide festival sponsored by the University of Missouri-St. Louis Continuing Education and Outreach. RC.

Sat. & Sun., May 3 & 4
English Country Faire, featuring performances of "Shakespeare On The Lawn," maypole and English country dancing, music and teatime refreshments.

St. Louis Horticultural Society show and sale. Sat. noon to 5 p.m. Sun. 9 a.m. to 5 p.m. RC.

Sun., May 4
Classic 99's "From the Garden, Live"® final concert: Elisa Barston, Jim Hsu, and Peter Henderson. Free.
(314) 725-0099 for tickets. Noon. RC.

125th anniversary of historic Shaw Place, built by Henry Shaw in 1878. Neighborhood celebration includes a house tour, wine tasting, and strawberry shortcake sale. Tickets are $15 ($12 for Garden members). For more information, call Jeff Goldone at (314) 776-2204. 1–4 p.m.

Wed. to Sun., May 7–11
Garden Gate Shop sale. Members save 20 percent on personal items and stationery. GGS.

****Fri., May 9**
Members' Event: Mother's Day Luncheon. See page 6 for details. 11:45 a.m. Tent on Garden grounds.

Fri. to Sun., May 9–11
Jewelry trunk show by Stephanie Greenberg. Noon to 4 p.m. GGS.

Sat., May 10
Shaw Nature Reserve's Spring Wildflower and Native Plant Sale. See page 13 for details. 9 a.m. to 4 p.m. SNR.

Garden StoryTime, for children ages 4 to 10. This month features *Plantzilla* and *Mrs. Spitzer's Garden*. Children under age 4 must be accompanied by an adult. 11 a.m. GGS.

Sat. & Sun., May 10 & 11
Bonsai Society of Greater St. Louis show and sale. 9 a.m. to 5 p.m. RC.

Greater St. Louis Dahlia Society sale. 9 a.m. to 5 p.m. RC.

Rose Society of Greater St. Louis sale. 9 a.m. to 5 p.m. RC.

Sun., May 11
Traditional Chinese painting demonstration by Grace Lin and James Wu. 10 a.m. to 2 p.m. GGS.

Tues. to Thurs., May 13–15
"Inside Out: Decorating Ideas for Outdoor Living Space." Garden Gate Shop theme garden displays include Asian, tropical, children's, and a "dad's" garden, with furniture, fountains, statuary, and plants. Members save 20 percent on merchandise. RC.

Fri. & Sat., May 16 & 17
Tour the EarthWays Home at Grand Center, now open the third Friday and Saturday of each month. This century-old Victorian home has been renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. $2 (free for Garden members). Call (314) 577-0220.
Tours begin at 10 a.m., 11 a.m., noon, and 1 p.m. EH.

Fri. to Sun., May 16–18
Herb Society of St. Louis Benefit. Herbs, T-shirts, and herb book sales benefit the restoration of the herb garden behind Tower Grove House. 9 a.m. to 5 p.m. GGS.

Sat., May 17
"Be A Butterfly" workshop for parents and pre-schoolers, where children dress up and search for plants, "lay an egg," and "sip nectar." $10 ($8 for Garden members). Advance registration required; call (636) 530-0076, ext. 13. 10 to 11 a.m. BH. $

Sat. & Sun., May 17 & 18
Chinese Culture Days, "Celebrating Unity Through Diversity." See page 4 for details. $7 (free for Garden members). 10 a.m. to 5 p.m.

Sun., May 20
Volunteer Opportunities Open House. Learn more about the wide variety of volunteer opportunities available at the Garden. 10 a.m. to 6 p.m. RC.

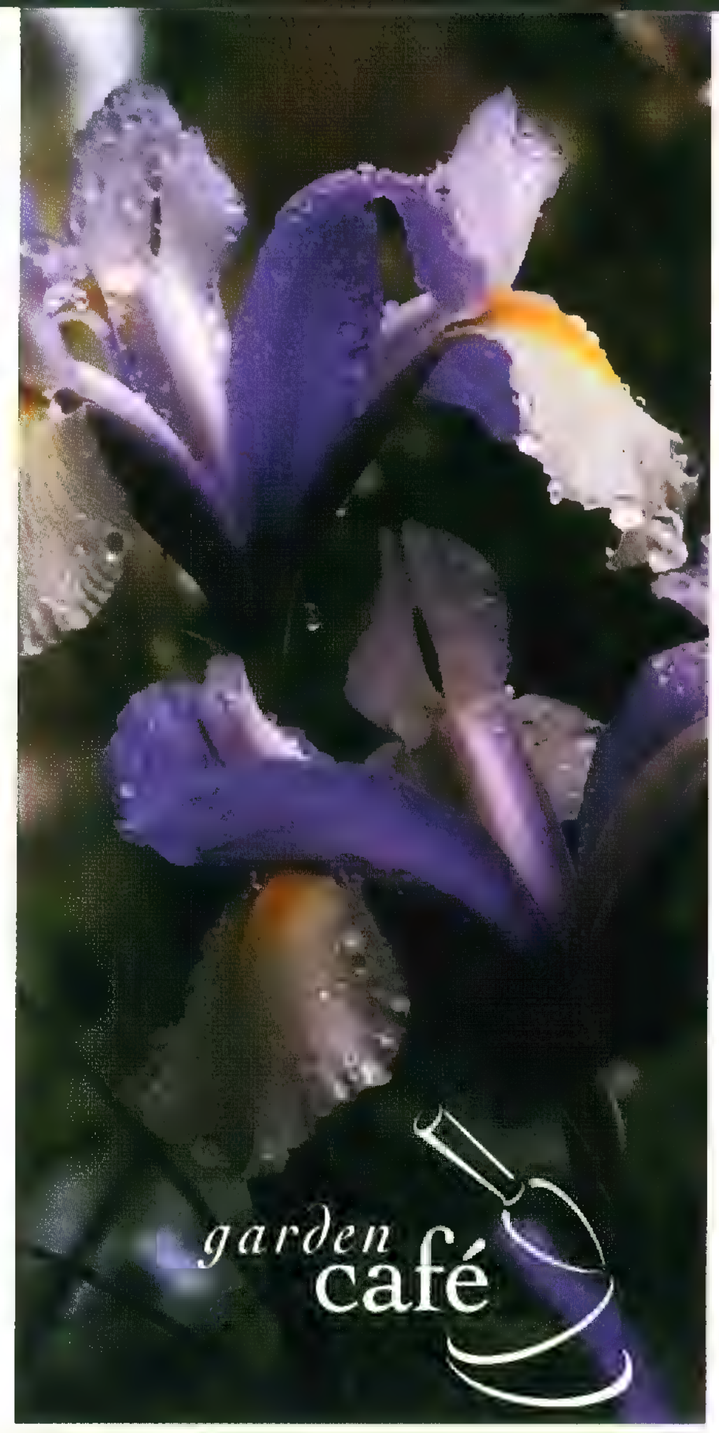
****Thurs., May 22**
Members' Event: Rose Evening. See page 6 for details. 5:30 to 8:30 p.m.

"Biodiversity and Evolution in the Tropical Crop Cassava," lecture by Barbara A. Schaal, Ph.D., biology proferssor at Washington University. Noon. MC.

Sat. & Sun., May 24 & 25
Rose Society of Greater St. Louis show. Sat. noon to 5 p.m.
Sun. 9 a.m. to 5 p.m. RC.

****Sat. to Mon., May 24–26**
Members' Opportunity: Remembering Our Members. Members of either the Garden or Butterfly House who show a valid membership card from one institution will receive free reciprocal admission at the other throughout the three-day holiday weekend.

PHOTO BY JACK JENNINGS



Mother's Day Brunch

Enjoy springtime in the Garden at the all-new Mother's Day brunch buffet.

Sun., May 11
seatings at 10 a.m., 11:30 a.m., and 1 p.m.
Reservations only: (314) 577-9530
Adults $24.95; children $11.95
(5 years and under are free)

Wed., May 28
Opening night of free summer Wednesday evenings features an outdoor concert by the St. Louis Invera'an Pipe Band from 7 to 8 p.m. Garden admission is free for all visitors after 5 p.m. on Wednesday evenings, now through the end of August.

Fri., May 30
"Escape to Paradise," a romantic evening to benefit the Butterfly House's education programs. See page 12 for details. BH. $

June

Through August, the Garden is free on Wednesdays after 5 p.m. for all visitors, and musical entertainment is included.

Now through June 6:
"Folk Art of Latin America" exhibit. 9 a.m. to 5 p.m. RC.

June 1 through July 31
Sticks and mantids! on now as part of the "Spectacular Spineless Species" series. Activities, games, and displays. Tues. to Sun. 9 a.m. to 5 p.m. BH. $

Wed., June 4
Lecture and book signing: "Creative Rock Gardening." Baldassare Mineo, owner of Siskiyou Rare Plant Nursery in Medford, Oregon and author of *Rock Garden Plants: A Color Encyclopedia,* will explore use of alpine and rock garden plants. 7 p.m. RC.

Wed. throughout June and July
Whitaker Music Festival outdoor concert series at the Garden's Cohen Amphitheater. See details on page 5. 7:30 p.m. Lawn seating. Free.

****Fri., June 6**
Members' Day: Musical Evening. See page 7 for details. 5:30 to 8:30 p.m.

Sat., June 7
Carnivorous Plant Society show and sale. 10 a.m. to 5 p.m. RC.

Sat., June 7
Greater St. Louis Iris Society beardless iris show. Noon to 5 p.m. RC.

Sat. & Sun., June 7-8, 14-15, 21-22
Plastic garden pot recycling. See page 20 for details. 9 a.m. to 4 p.m. Drop off at 4500 Shaw Blvd. at Vandeventer.

June 9 through July 25
"Beyond Light" exhibit of X-rayography art by Albert Koetsier. 9 a.m. to 5 p.m. RC.

June 11 through Aug. 22
Cacti and succulent photography exhibit by Steve Feiner. Images from the photographer's personal collection of over 400 species. 9 a.m. to 5 p.m. RC.

Sat., June 14
Garden StoryTime, for children ages 4 to 10, includes a puppet show. Children under age 4 must be accompanied by an adult. 11 a.m. GGS.

Sat. & Sun., June 14 & 15
Mid-America Regional Lily Society show. Sat. noon to 5 p.m. Sun. 9 a.m. to 5 p.m. RC.

Sun., June 15
"Hots 'n' Brats" Father's Day celebration. See page 12 for details. BH. $

Wed., June 18
"Be A Butterfly" workshop for parents and pre-schoolers, where children dress up and search for plants, "lay an egg," and "sip nectar." $10 ($8 Garden members). Advance registration required; call (636) 530-0076, ext. 13. 10 to 11 a.m. BH. $

Fri. & Sat., June 20 & 21
Tour the EarthWays Home at Grand Center. This century-old Victorian home has been renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. $2 (free for Garden members). Call (314) 577-0220. Tours begin at 10 a.m., 11 a.m., noon, and 1 p.m. EH.

Sun., June 22
West County Daylily Society show and sale. 9 a.m. to 5 p.m. RC.

Sat. & Sun., June 28 & 29
Trunk show by Terry Brickler of Del Sol Jewelry. 9 a.m. to 5:30 p.m. Food tasting, 1 to 4 p.m. GGS.

July

Wed. nights in July
Whitaker Music Festival continues with free performances by Vargas (July 2); Farshid Etniko (July 9); Raven Moon (July 16); Ralph Butler Band (July 23); and Dan Rubright (July 30).

Thurs., July 24
Henry Shaw's 203rd birthday. Details to be announced.

the key

All events are free with admission or membership unless otherwise noted.

BH = Butterfly House
CA = Cohen Amphitheater
CL = Climatron
EH = EarthWays Home
GGS = Garden Gate Shop
JG = Japanese Garden
KC = Kemper Center
MC = Monsanto Center
RC = Ridgway Center
SNR = Shaw Nature Reserve
SP = Spink Pavilion
* denotes a Members-only event.
$ denotes an additional fee.

tours, education, fitness

Hands-on learning activities are offered by volunteers on the weekend. Look for the colorful Volunteer Interpretive Carts on the Garden grounds.

Great Garden Adventures
Take a self-guided "Great Garden Adventure" tour. Ask at the ticket counter about a Fitness Foray, Stroller Strut, Kids' Quest, or Guided Exploration. Wheelchair-friendly route also available.

Walking tours led by Garden Docents leave from the ticket counter at 1 p.m. daily throughout the year (except during Japanese Festival and Best of Missouri Market).

Garden walkers' breakfasts
In cooperation with the American Heart Association, the grounds open early every Wednesday and Saturday at 7 a.m. to encourage fitness walking. A light breakfast is available for purchase in the Garden Café.

Tower Grove House,
Garden founder Henry Shaw's 1851 country home is closed for reinterpretation until late 2004.

Father's Day Special through June 15

This Father's Day give dad a gift membership, a free car wash, and more! With his new membership, dad will receive a coupon for the Whole Thing, from Waterway Gas and Wash, "The Best Car Washes in Town." He will also be entered into a drawing for a Clean Car Club Membership of unlimited car washes all year long and discounts on gasoline. Offer valid May 19 to June 15, 2003. Call (314) 577-5118 for details, or visit us at www.mobot.org.

grow, grass, grow

A visitor inspects the different types of grass in the Kemper Center for Home Gardening's lawn test beds.

turf tidbits

- Scott and his crew use 897,180 gallons of water each week on the Garden's 33-acres of lawn.
- By planting 2,000 pounds of grass seed, the Garden ends up with 460 million grass plants.

A Work of Art

There's a reason why gallery walls are clean, and most fine art is framed. You might recognize a fantastic still life by a Dutch master if it were jumbled up in a pile of canvas stretchers, but it would be difficult to *appreciate* it. Framing and judicious placement provide a context, a simplified backdrop against which the art springs to life. It's just like that, agrees Garden Turf Manager Scott Stelling.

"The Garden's turf is a framework around the beds. They wouldn't look as good without it." And a beautiful frame it is… Lawn equipment manufacturer Briggs & Stratton ranks the Garden's 33 acres of lush green grass as one of the top 10 lawns in the country. Every morning at 6 a.m., Scott and his crew of three—Pat Daniel, Matt Schmitt and Todd Simms—start their seemingly never-ending task list.

"Good lawns don't just happen," says Stelling. "They require a commitment."

Uh-oh. I started this interview with a list of questions like "What's the least work I can do and still have an attractive lawn?" Stelling laughs. "The least work? Hire a reputable lawn service!" He explains: creating and maintaining gorgeous green grass isn't necessarily all hard work, it just requires commitment, that is, attention to detail and sticking to a schedule. Here are Stelling's Five Steps for a safe, healthy, and relatively low-maintenance lawn.

Practice proper mowing techniques. "I can't stress this enough," says Stelling. "Don't mow when the grass is wet!" When blades of grass are wet, they don't cut cleanly, but tear, and this is a starting point for disease. Mow to the proper height: do not cut off more than one-third of the blade at a time. Keep the "lay" of the grass even by mowing in a different direction each time, and keep the blades of your mower sharp.

Practice proper fertilizing. "There is a correct time and a correct way to fertilize your lawn." It is all very season- and weather-dependent, so check our month-to-month updates starting with the May/June details at right.

Start (and follow) a schedule. "Mark your calendar when to mow, when to fertilize, when to aerate. Don't wait until your neighbor's doing

it: by then it's too late. Timing is the big issue."

Be proactive. If you see weeds, diseases, etc., find out right away what they are and how to treat it. If you don't have time, hire a professional to come to your home.

Be safe. Read all your product labels completely. "It might take you a half-hour to read some of these labels," says Stelling, "but it's worth it for your health and the health of our planet." Know how much to use. More is not better, when it comes to lawn care. Consistency is key.

"The worst thing you can do to turf is nothing. If you do nothing, weeds, disease, and insects will just get worse and worse."

Getting Started

Evaluate your lawn in early fall once the grass has begun to recover from the worst of summer heat. If the grass is thin and extremely weedy, you may need to consider an entire renovation. If the lawn is just thin, overseed it. Be sure to buy seed from a reputable dealer where the seed is certifiable.

Now in May and June

Weed. "The best defense against weeds is a healthy thick turf that's well maintained." May is a critical point for crabgrass and goosegrass, as it is just becoming visible at this point. Check your lawn's hotspots—areas near sidewalks and driveways—this month. If your lawn has any sunny but wet locations, keep an eye out for nut grass toward the end of May. If you find weeds, apply a post-emergent broadleaf herbicide.

Feed. Fertilize in early May once spring growth slows down. Be careful not to overfeed now, as burning may occur in hotter weather. Use a slow-release nitrogen fertilizer, no more than 1 pound per 1,000 square feet. Leave the clippings in place as much as possible to recycle the nitrogen after fertilizing.

Water. Sometime in June, you will probably need to start watering. Water infrequently and deeply to a soil depth of 4–6 inches. (Use a tuna can to determine how long it takes to accumulate that much. Every sprinkler is different.) Overwatering can cause disease, so be sure the grass dries out in between waterings.

Vigilence. Pests such as grubworm and sod webworm can crop up in early summer. Look for the telltale signs: 3–10 inch dead spots, tunnels in the dirt, and strands of "silk" with soil and grass clippings attached. If there are three or more per square yard, you may need to take measures to control it.

Care and maintenance. Once the groundwork is established, time can be spent on the extra little details like edging and trimming.

PHOTO BY JUSTIN VISNESKY

Scott Stelling

Now in his fifth season at the Garden, Stelling lists his biggest challenge as simply working around the thousands of people who tour the Gardens every day. "We strive to get our work done without infringing on our visitors' enjoyment." To this end, Scott keeps the turf crew on a tight schedule, designed to keep mowers out of popular areas at peak times.

This organization and discipline seems to come naturally to Scott, who served in the U.S. Air Force for two years before deciding he wanted to spend his time outdoors.

"About 12 years ago I started residentdial lawn and landscaping for a friend who loved plants and shared his enthusiasm," says Stelling. After a stint doing mostly commercial work, Stelling joined the Garden in 1999, and today serves also on the board with the Missouri Valley Turfgrass Association.

Stelling lives in Belleville, Illinois, with his wife and five children, ages 17 months to 14.

What's his home lawn like? "Not too shabby," he laughs. "I like to work on it, even after a long day at the Garden, and my boy Josh likes to help out too."

PHOTO BY NANCY DEBETTENCOURT

Stelling and his crew use two Ferris IS 3000Z mid-mount zero-turn riders featuring IS Independent Suspension (23-hp and 25-hp units with 61" mowing decks); and two 23-hp Ferris dual-drive HydroWalk commercial walk-behinds (48" and 52" decks).

PHOTO BY KAREN HAGENOW

Dr. Steve Cline takes a hands-on approach during plastic post recycling. Last year the Garden recycled 100,000 pounds of garden plastic into landscape "timber."

Turn pots into passes

Each year, over 80 million tons of garden plastic are generated in the U.S. This kind of plastic can now go to recyclers who grind it into a landscape "timber" that is an excellent substitute for outdoor construction. So don't throw away those plastic pots and trays from your new garden plants! Recycle them and receive a free admission pass for two to the Garden.

Be sure to empty all soil from containers and remove any metal hangers before recycling. Household plastic and clay pots cannot be accepted. St. Louis-based Environmental Recycling, Inc. will process the plastic into two-by-six lumber, which will then be sold to cover the cost of the collection. For information on purchasing this recycled product, call Dr. Steven Cline, William T. Kemper Manager of the Kemper Center for Home Gardening, at (314) 577-9561 during regular business hours.

Dates: June 7–8, 14–15, and 21–22
Time: 9 a.m. to 4 p.m.
Place: west parking lot of the Monsanto Center,
4500 Shaw Blvd. at Vandeventer
More information: (314) 577-9440

plants in bloom

May

June

PHOTOS BY JACK JENNINGS

PHOTO BY ELLEN FLESCH

Fritillaria imperialis 'Lutea'

the garden explorer

Skunky Plants

by Chip Tynan, *Horticulture Answer Service Manager*

Skunks in the garden? Well, not really the furry kind, but shall we say odiferous, musky, or foxy-scented plants? As surely as beauty is in the eye of the beholder, so too can it be said that fragrance is also in the beholder's nose. I'm thinking of the many times over the years when I've heard visitors strolling past the Climatron remarking to each other "Do you smell that skunk?" The comment may be punctuated by an apprehensive sideways glance to make sure an errant critter is not wandering by.

This mystery scent wafts far from its source, but its origin is Crosswort, or *Phuopsis stylosa*, a humble little mat-forming ground cover in the Madder (Rubiaceae) family. It resides just uphill from the tram path, growing along the stone pathway meandering through the Kassabaum Dwarf Conifer Garden. A short-lived perennial that self-sows, it requires excellent drainage and a sheltered location to thrive, but when happy, its long stems of sticky whorled leaves give rise to a profusion of small pink flowers during summer.

Another group of notoriously musky flowers are the fritillaries. Spring-flowering bulbs in the lily family, fritillaries are grown nearby in both the Heckman Rock and Heckman Bulb gardens. Variable in size and color, perhaps the most spectacular are the Crown imperials (*Fritillaria imperialis*) with impressive pendant bell-shaped flowers atop three-foot tall stems. Several colors are grown, including the yellow-flowered variety 'Lutea' and the reddish-orange 'Rubra Maxima.' The striking foliage of the variegated 'Aureomarginata' is sure to catch the eye, but all of the above may tickle the nose with their splendidly smelly aroma.

PHOTO BY ELLEN FLESCH

On the Garden staff since 1986, Chip Tynan manages the Garden's Horticulture Answer Service, overseeing a staff of 40 volunteers who field an excess of 20,000 questions annually. He is a well-known local columnist for the St. Louis Post-Dispatch *and regularly teaches adult education courses at the Garden, talks to gardening clubs, and appears on local TV and radio as a gardening expert. Tynan's email is chip.tynan@mobot.org.*

the website...

Plant Finder:
Cultural information on over 2,000 plants growing in the Kemper display gardens.

Find-A-Plant:
Search the living plant database to find what plants are growing in the Garden and where.

Gardening Help:
Information on over 300 gardening topics, including all Hortline messages.

Integrated Pest Management:
Diagnostic and control measures for nearly 100 of the most common insect, disease, and environmental problems encountered in Missouri.

Plants of Merit:
Plants selected by local horticulturalists with outstanding qualities for dependable performance in the region.

Plants in Bloom:
Updated weekly at the Garden, along with current photos, updated biweekly.

roses for the faint of heart

Rosa 'Knockout' in the Gladney Rose Garden

Since prehistoric times roses have held an almost mythic status in human culture. Throughout Europe, Asia, and the Middle East, the flower appears in the earliest art and poetry as both an object of beauty, but also of usefulness—in perfumes, flavorings, even medicines.

A rose, it turns out, is not a rose. With 110 genera comprising some 3,100 species, the diverse rose family encompasses all kinds of things you wouldn't expect. Some of the world's most economically important fruit and berry crops—such as apples, plums, and strawberries, to name but a few—are in the rose family. Say the word "rose," however, and most people think immediately of the highly esteemed, deliciously fragrant true rose, genus Rosa.

The rose can rightly be called the world's favorite flower, with an estimated 150 million plants sold worldwide each year. And with 40,000 roses on the International Rose Register, they are diverse. Prized for their blooms, beloved for their scent, feared for their thorns and supposed susceptibility to disease, all roses are not created equal. If you fear excessive chores in the garden, but love the beauty and fragrance of the true rose, there are indeed plants suitable for your level of commitment.

"Lots of roses are hard to kill," says Diane Brueckman, Garden rosarian and national judge for the All America Rose Selections. "Believe me, I've tried! 'Nearly Wild' has sat in the Garden for years in less than ideal sun, with little extra attention, and it grows very well."

For the novice rosaphile, Brueckman recommends starting with the shrub rose. This diverse subset of the modern rose offers some very hardy options for the lazy gardener. Begin by selecting a suitable plant for our region, and what better way than by taking a genteel stroll around a world-famous rose garden?

"If you live in the St. Louis region, visit the Garden," advises Brueckman. "Roses that grow well on the East or West coasts won't necessarily grow well in the Midwest. If a rose is doing well here, then it's probably a good bet for your home." Shrub roses are mixed in throughout the rose gardens, but the lowest terrace of the Lehmann Rose Garden has the highest concentration of them. Decide which colors and fragrances you like best. 'Carefree Sunshine' is an excellent low-maintenance yellow rose, according to Brueckman. 'Knock Out' is another hardy contender in cherry red-pink. Note your favorites, locate the variety at a reputable local garden store, and plan to purchase and plant them during early spring.

Choose your spot

In the ideal world, roses prefer six hours of pure morning light per day, planted in a slightly acid soil with good drainage and plenty of air circulation but no draft. In the real world, roses can, and do, grow almost anywhere. They will do best in full sun, but for hardy breeds, even four hours may be adequate.

Learn More

The Adult Education division of the Garden offers classes to members at a discount, with classes on roses offered throughout the year. On the website, go to: www.mobot.org/gardeninghelp to view current course offerings. For more information on the Rose Society of Greater St. Louis, contact president Bob Jeffress at (636) 946-7109.

bad news rose

It is a virus, which may or may not be native to the U.S. "It's certainly never flourished here before," says Brueckman. "Just in the last 10 years." Believed to be transmitted by air-borne mites, rose rosette probably spread from a plant in Canada to experimental roses in the upper Midwest. It is now all over the East Coast and has West Coast rosarians nervously eyeing their prize plants for symptoms. There is no known cure.

Rose rosette results in the development of "witches' broom," or shortened stems with bunches of distorted reddish leaves on the tips. Other characteristics include rubbery thorns and deformed blooms—all leading to, in Brueckman's words, "a slow unsightly death." At the first sign of symptoms on the upper plant, gardeners can cut off the entire cane (stalk) down to the bud union (where the cane joins the root) and watch carefully, as this may sometimes save the plant. In most cases, though, the entire bush will need to be ripped out and destroyed. In 2003, Diane Brueckman, with the help of a dedicated crew of volunteers, has replaced over 1,000 roses in the Lehmann and Gladney gardens to help stem the spread of the disease.

Thanks to rose growers Weeks, Connard Pyle, and Poulsen Rosier for their generous donations of plant material.

PHOTO BY NANCY DEBETTENCOURT

Diane Brueckman

"It's not really an exciting story," laughs Diane Brueckman, when asked how she got into roses. But it is inspiring. After raising six children and running a successful business with her husband for 12 years, Brueckman wanted a change. She'd always loved roses, took one horticulture class, and was hooked.

"I love the variety, the fragrance," says Brueckman, "the fact that you can cut the flowers and take them in the house and they last. Also the fact that so many of them bloom all summer."

A year later, in 1995, she managed to land a position at the Garden, and today, Brueckman is a master rosarian and judge for the prestigious All America Rose Selection.

When asked about her home garden, Brueckman confesses "We recently moved out to the country, so my backyard is a converted cornfield. I don't really have any roses there." How many is "not really any"? "Only 20 plants or so."

Favorite rose: "I have many favorites. One I have to say I have always liked Rosa rugosa alba. *It's a gorgeous species rose, grown since 1799, which blooms all summer and smells like cinnamon candy. It doesn't require spraying or much pruning, it's a large rose but isn't unruly. I first saw it here at the Garden and it was love at first sight."*

Plant with care

Bare root roses come in a bag or box; soak the roots in water for 2–12 hours before planting out. Adequate soil preparation helps grow healthy roses that will be less susceptible to disease and pests later. Work into the soil organic fertilizers such as bone meal, alfalfa meal, cottonseed meal, and milorganite, about 1/2 to 3/4 of a cup per plant. Be sure to dig a nice big hole, so that the top of the bud union (where the branches arise) is soil-level or a little below. Dig the hole deeper then needed, then create a little mound in the middle and spread the roots over it.

Care a little or a lot less

Most lazy gardeners eschew roses for fear of commitment—all that feeding and pruning and watering and spraying. We all know that roses thrive under loving hands. However, a little-known secret is that shrub roses will do acceptably well with less. Roses need about an inch of water per week, but in a hot St. Louis summer, they could take up to four. With roses' deep roots, however, all watering can be accomplished in a once weekly session. At the same time as that once-a-week watering, you should serve up an organic liquid fertilizer.

Exactly two times—once in the spring and then again about six weeks later after the first bloom—you should give the soil a good dressing of a balanced organic fertilizer. Another tip from Diane's rose garden: add a tablespoon of good, old-fashioned epsom salts to the mix. It will help bloom and brighten colors. And as for pruning, shrub roses can go indefinitely with little or no pruning other than deadheading.

Beware the beetle and the fly

OK, so humans aren't the only rose lovers on the planet. The list of insect pests is lengthy, but thankfully, the most common—aphids—are easily controlled with a spray in early spring. "Predators keep them at bay the rest of the time," advises Brueckman. More recently the Japanese beetle has invaded some rose gardens. "In the last five years, we've seen them all over St. Louis." These can be knocked off the plants and squashed. [It also helps to have a good turf crew to keep the beetle grubs out of the lawn! See page 18.] Some roses are prone to fungal diseases such as black spot or shot hole or mildew. One spraying early in spring can stave off most such problems. "But," adds Brueckman, "It's always good to watch for problems. Hybrid tea roses, for example, will require more attention."

Rosa sub rosa

It was June 8, 1913 and all the headlines in the St. Louis papers announced the same news: "Five Thousand Visit Shaw's Garden To See 500 Kinds of Roses." Until this surprisingly late date, the Garden had only a modest, informal rose garden known in quaint fashion as the "Rose Patch." This is surprising because Henry Shaw himself professed to adore roses, and of the only two volumes he ever penned, one is a slim treatise on this "Queen of Flowers" dubbed *The Rose*. In it, Shaw writes "Human art can neither coulour nor describe so fair a flower. Venus herself feels a rival in the Rose, whose beauty is composed of all that is exquisite and graceful."

In the May 1913 *Bulletin*, the editor described the new garden: "West of the main office building a plot of ground formerly used for vegetables has been set aside as a rose garden....Along the southern edge is a large pergola. The design of the garden is purely formal...being mainly a series of circles cut by straight and curved walks."

The press in 1913 was quick to dub the formal walks lined with double rows of roses, the "Honeymoon Trail," and indeed many proposals reportedly took place there. Visitors also admired such oddities as the "blue rose," the "green rose," and the "rose of ten colors"—the latter having a flower "so variegated as to show ten colors in the same blossom."

Today, the Shoenberg Fountain and the Dawn Redwood colonnade occupy the area where the first rose garden once stood. However, the Gladney Rose Garden, with its formal "wheel" design and overarching climbers, and the Lehmann Rose Garden, with its terraced beauty, offer more than four times the roses for public viewing. And visitors can still admire novelties in the All-America Rose Selections test garden, where new cultivars compete annually.

Proposals are free, but to find out about weddings, call (314) 577-0200.

PHOTO COURTESY OF MBG ARCH VLS

Administration building in southeast corner of the Garden, first rose garden in the foreground, 1913.

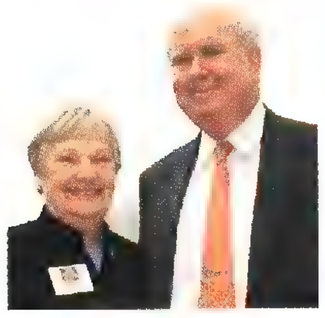
Above: Copies of The Rose *by Henry Shaw from the MBG Archives.*

volunteers

Volunteer Service Recognition

Last year, volunteers at the Garden numbered 1,212. They contributed 97,511 hours of service, or the equivalent labor of 50 additional full-time employees. The largest numbers of volunteers find work in the Horticulture and Education divisions, but volunteers help out in almost every area, and the Garden could not operate at current levels of international renown and community outreach without the help of these dedicated individuals and groups.

On March 18, the Garden hosted the annual volunteer service recognition luncheon honoring the dozens of volunteers with the longest standing commitments. The volunteers recognized for their 10, 20, and 30 year tenures contributed a cumulative of 730 years of service to the Garden. Whether through the St. Louis Herb Society, the Garden Docents, Tower Grove House, or any one of a number groups at the Garden and Shaw Nature Reserve, these men and women have made substantial contributions to the institution's future, and the Garden is very grateful for their dedication.



Thirty year volunteers. Doris Schulte and Dr. Peter Raven. Not pictured: Kaye Quentin

make a difference...again!

By being a member of the Garden, you have already helped make a difference with your financial contribution. By becoming a volunteer, you can make a difference again—with the contribution of your time. Stop by the Volunteer Open House on Tuesday, May 20 from 10 a.m. to 6 p.m. in the Ridgway Center and learn about the many and various opportunities awaiting you as a Garden volunteer. Representatives from several Garden divisions will be present to answer questions.

PHOTOS BY DIANE WILSON

Twenty year volunteers. First row, from left: Jaclyn Meyer, Armyn Spies, Dr. Peter Raven, Sharon Dougherty, Beverly Schmitt, Sue Reed. Back row: Patricia Doss, Marie Schmitz, Fran Kroeger, Sue Reisel. Not pictured: Audrey Claus, Rita Hirson, Jim Jackson, Eleanora Markus, Marge Young.

Ten years volunteers. First row, from left: Gail Abbott, Jane Bosche, Dr. Peter Raven, Joan Dellbringge, Shirley Walsh, Marie Bergmann, Suzanne Switzer, Pat Leigh, Kathleen Weltzin, Dorothy Ernst. Back row, from left: Gale Portman, Franklin Perkins, Ray Kirkman, Jane Gleason, Fred Winterowd, Dorothy Hohenberger, Barbara Rezny, Karen Mondale, Chrise Miller, Anita Rayfield, Lou Stark. Not pictured: Holly Brigham, Ann Bowen, Marion Cross, Ellen Dubinsky, Sondra Ellis, Martha Gersten, Esther Guebert, Justine Hafner, Diane Kohl, Deborah Ladd, Mary Longrais, Anne Schlafly, Susie Schulte, Liz Teasdale, Jim Teng, Linda Traina, Jane Tschudy.

volunteer spotlight

PHOTO BY WASHINGTON MIISSOURIAN

Rus Goddard

If you hike the Shaw Nature Reserve's trails with any regularity, you have probably encountered Rus Goddard. After retiring from International Shoe Company, Rus has made it his mission for the last 20 years to maintain the Reserve's 14-mile trail system, removing fallen trees with a chainsaw and clearing brush with a weedeater, even after hip surgery at the age of 87 two years ago.

Raised on a farm near Cape Girardeau, Rus moved with his family to downtown St. Louis when he was 10, and he pined for the country. He first visited the Reserve in the 1930s and was hooked. "I've traveled a lot," says Goddard, "but you'd have trouble finding a spot as pretty as this."

In 2002, Rus contributed 611 hours of labor. "His dedication is amazing. Whatever types of grueling tasks it takes to keep those trails clear, Rus does them," says John Behrer, Director of the Shaw Nature Reserve. "His contribution to the Nature Reserve, and the public's enjoyment of it, cannot be overestimated."

There's a place for your talents at the Garden; a wide range of volunteer opportunities are available. For more information, call Jackie Juras at (314) 577-5187.

Ecuador

Today, in every country on Earth, species are becoming extinct at an unprecedented rate. Organisms are being lost forever, before we can determine their uses or their role in the balance of nature. Driven by this urgent imperative, Missouri Botanical Garden scientists conduct the most active and geographically widespread botanical research program in the world. Their work forms the base on which the pyramid of plant science stands.

The Taylor Fund for Ecological Research—established by the gift of Jack Taylor, founder of Enterprise Rent-A-Car—allows the Garden to continue pursuit of knowledge of plant diversity in countries all over the world, and to work with these countries to conserve and develop plant resources sustainably before it's too late.

Dr. David Neill, Curator of the Garden's Ecuador program

The smallest country in the Andean highlands, Ecuador nevertheless is among the "top ten" of the most biologically diverse nations on Earth. Dubbed a "megadiversity hotspot" by tropical ecologists, Ecuador boasts more than 16,000 species of native plants packed into this equatorial nation roughly the size of Colorado—at least 4,500 species of Ecuadorian plants occur nowhere else on Earth. Botanists are still discovering more than 160 new species of plants every year in Ecuador—a new species nearly every two days. The Galápagos Islands, famed for their unique and fearless wildlife, are also part of Ecuador and were the nation's first national park. Efforts to conserve biodiversity have resulted in the establishment of 27 such state-owned national parks and protected areas, comprising roughly 16 percent of the nation's territory. However, the Ecuadorian government's management of these resources has been hindered by conflicting needs, political instability, and a lack of sufficient resources.

Curator David Neill is the Garden's resident botanist in Ecuador, and has been since 1985. He has trained more than 60 young Ecuadorian biologists and foresters in botanical research and conservation methods, and he and his Ecuadorian colleagues at the National Herbarium in Quito carry out inventories and surveys of the plants throughout the country. The Garden's botanical training program also provides internships and research grants for Ecuadorian students. In a recent training course in botany and conservation, the Ecuadorians were joined by students from Peru and Bolivia. The Ecuadorian government has used Garden research data to help decide which areas to set aside as national parks and reserves.

This year, Neill is training a group of eight indigenous people in botanical research methods and conservation of forests and other natural resources. The indigenous interns are members of two different native tribes—the Awá in northwestern Ecuador and the Shuar in the southeast—whose home territories include some of the most unique and diverse forests in the country. Following the training, the interns will work for their tribes to design and carry out environmental management plans on the tribal lands. The Garden helped to establish the Amazon Plant Conservation Center to carry out research on sustainable agroforestry methods using native tree species, and provide training those methods for local farmers and indigenous peoples. The Center is located at the Jatun Sacha Biological Station, a 5,000-acre reserve owned by a

non-profit Ecuadorian foundation that Neill helped to develop. His research focuses on Fabaceae, the bean family, legumes, and inventories of the diversity of trees in the forests of Ecuador.

In the Amazon region, the staple food of the native people is a thick beverage called *chicha*, made from boiled, fermented manioc (a root vegetable). The person making the *chicha* chews some of the boiled mash and spits into the pot; the enzymes in the saliva start the fermentation. When visiting an Indian household, a big bowl of *chicha* is always offered.

"Definitely an acquired taste," laughs Dr. Neill, "but I have gotten used to it over the years and might even say I like *chicha*." He continues to detail other food delicacies in the rain forest, such as winged ants, which you eat live with a bit of salt. "Hold them by the wings and bite off the abdomen," and palm grubs, which are dug out of a rotting palm trunk and can be eaten either raw or fried.

After 18 years in the forests and jungles of Ecuador, Neill manages to take quite a bit in stride, like the occasional brush with a herd of white-lipped peccaries, a kind of wild boar. "One time I was alone in the forest and a group of at least 100 peccaries came through, grunting and pawing the earth. The smell of that many pigs was overpowering." They left after he climbed a tree. Then there are the pit vipers. "There are small ones that hang in the trees at just about eye level." Despite numerous encounters, he has managed to avoid being bitten.

With such dangers, one wonders how he got into this line of work. "When I was 20 years old and had finished two years of college, I joined a friend on a botanical expedition in Nicaragua. It was suffocating, hot and humid, but I looked up at the huge tropical trees, hung with vines and covered with epiphytes, and I heard the toucans and parrots flying about. From that moment I knew that I wanted to study the tropical forests."

Neill is preparing for his annual 1–2 month visit to St. Louis to work in the MBG Herbarium, but took time to tell us about his work.

What do you like best about your job in Ecuador?

My work is very exciting because there is so much to learn and discover here. Every time we go to the field we find new species of plants, on average, every two days. I feel that our research is contributing in very important ways to the immense efforts that many people and organizations are making to conserve Ecuador's spectacular biodiversity.

What is the biggest challenge right now facing your program?

It's a race against time. We continue to make many new discoveries, but the forests are disappearing at an alarming rate. About 300,000 acres of forest in Ecuador are cut each year. Many of the 4,500 plant species endemic to Ecuador are dangerously close to extinction. The problems of poverty, the pressures of population growth, and the misuse of natural resources continue to plague Ecuador. The challenge we face is how to apply the knowledge that we are gaining from our research on plants to help actively in conservation efforts, to work to stem the tide of destruction of natural forests, and to help restore habitats and repair the ecological damage that has been done to natural vegetation in Ecuador.

Cordillera del Cóndor

The Cordillera del Cóndor is an eastern outlier of the main Andean chain which extends about 90 miles from north to south, rises to a maximum elevation of about 9,500 feet, and forms part of the international border between Ecuador and Peru. For over 160 years, that part of the border was in dispute until a 1998 peace treaty established the precise location of the international border.

The region is of great interest to biologists; it may well have the richest flora of any similar-sized area anywhere in the New World. Botanists from Missouri Botanical Garden, together with colleagues from the National Herbarium of Ecuador, the University of Loja, and the indigenous Shuar Federation, are currently carrying out botanical inventories in the Ecuadorian portion of the Cordillera del Cóndor region, with financial support from the Taylor Fund for Ecological Research. New discoveries are made regularly. For example, botanists recently discovered that many plants growing on the sandstone summits of the Cóndor are closely related to species on the sandstone mesas of the Guayana highlands in southern Venezuela, far away on the other side of South America.

Except for a small area designated a "peace park" in the 1998 treaty, the area is not protected. Gold and other precious minerals have been discovered there, and the government of Ecuador has granted exploratory mining concessions to several private firms, generating conflict with the Shuar people who inhabit the region. The Garden's Center for Conservation and Sustainable Development is working with the Shuar Federation to develop a conservation and land-use management plan.

Opposite: Active volcano Tungurahua, during an eruption in 1999

*Below: Ecuadorian flora and fauna. From left, the Rothschildiana moth; a species new to science (*Arnaldoa argentea*) recently described by Garden curators Drs. Carmen Ulloa and Peter Jørgensen; and a llama in the Cajas National Park, southern Ecuador.*

tributes

January–February 2003

For information on making a gift to the Tribute Fund, please call the Development Office at (314) 577-5120.

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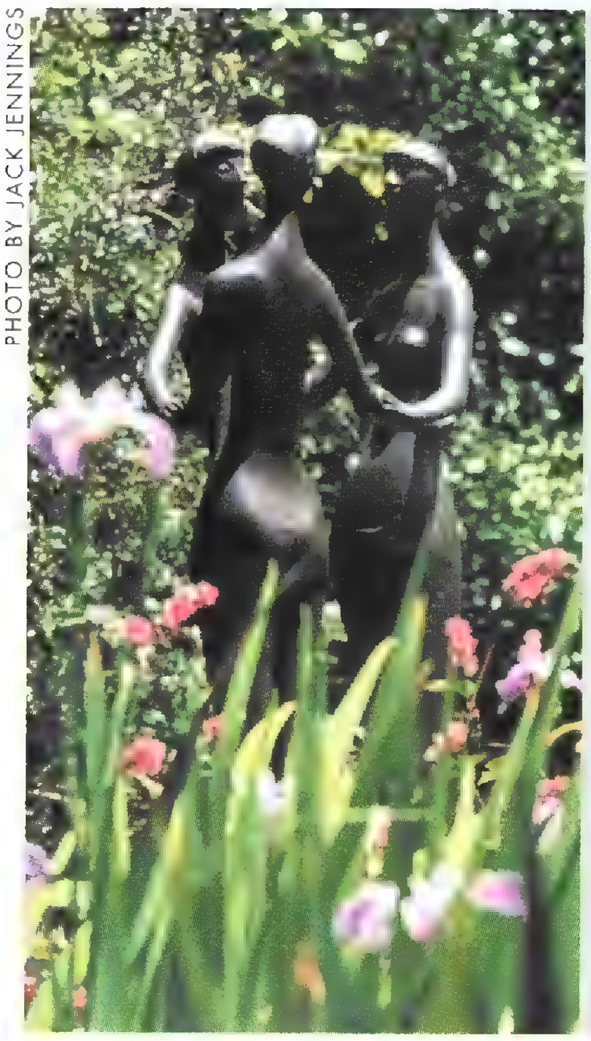

Create a Legacy

By leaving a bequest to the Garden, you create a legacy that will benefit others for generations to come. If you have already included the Garden in your estate plans, we hope that you will share this information with us. We would like to express our gratitude and welcome you into the Heritage Society. Of course, your wishes for anonymity are respected.

Please call Judi Schraer, planned giving officer, at (314) 577-9455 for further information and a complimentary brochure.

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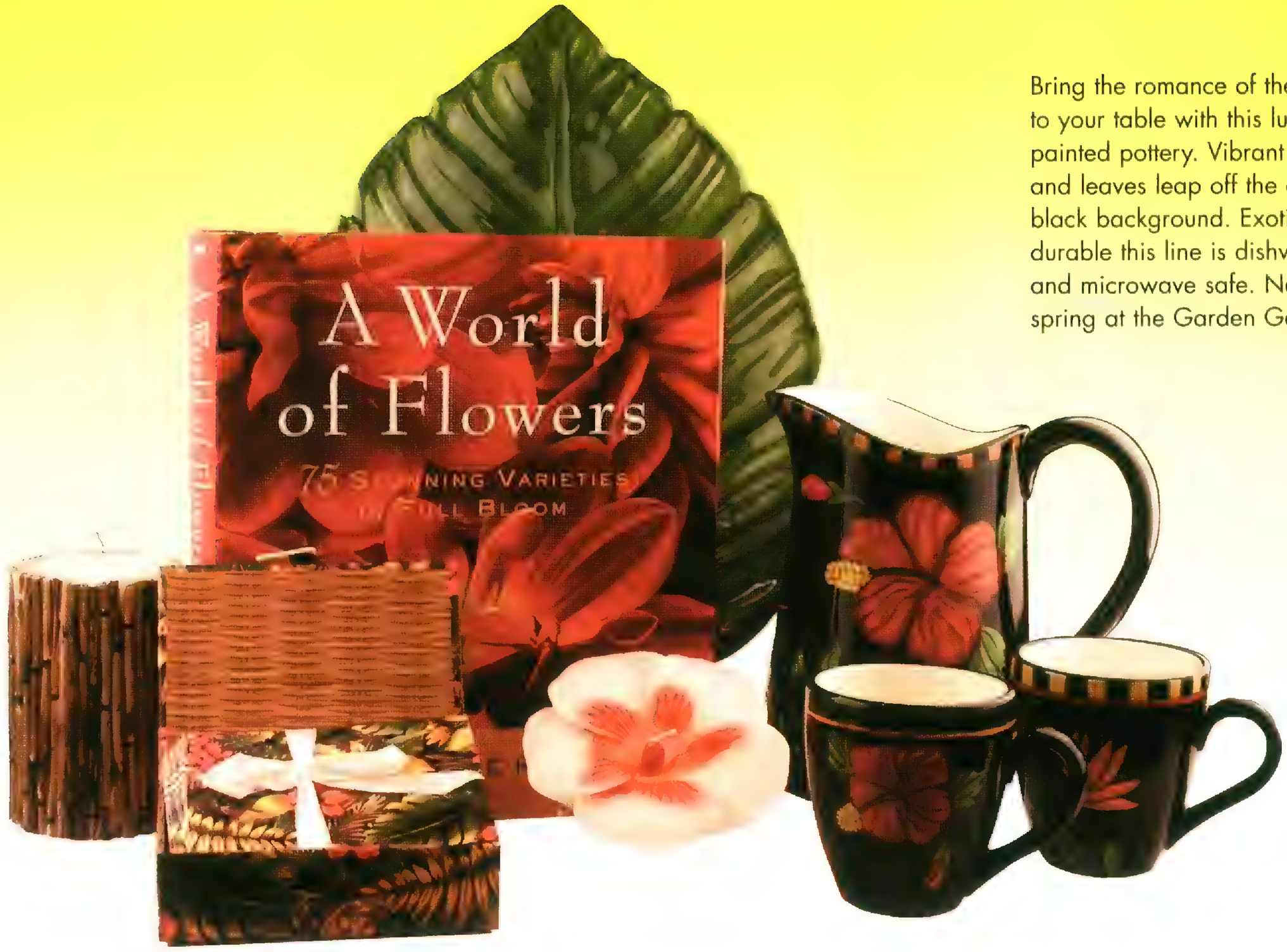

Bring the romance of the tropics to your table with this lush, hand-painted pottery. Vibrant flowers and leaves leap off the dramatic black background. Exotic yet durable this line is dishwasher and microwave safe. New for spring at the Garden Gate Shop.

PHOTO BY BRYAN REYKAMP

the shop at the Garden

4344 Shaw Boulevard
(314) 577-5137
Open daily 9 a.m. to 5:30 p.m.
All proceeds benefit the Garden.

Special offers and events!

Wed.–Sun., May 7–11
Members receive 20% off all personal products and stationery.

Fri.–Sun., May 9–11
Stephanie Greenberg jewelry trunk show, 12–4 p.m.

Sat., May 10
Children's story time, 11 a.m.—*Plantzilla* and *Mrs. Spitzer's Garden*

Sun., May 11
Traditional Chinese painting demonstration by Grace Lin and James Wu, 10 a.m.to 2 p.m.

Tues.–Sun., May 13–18
Inside Out: decorating ideas for outdoor living space

Members sale: Members receive 20% off all merchandise.

Fri.–Sun., May 16–18
Herb Society of St. Louis Benefit: Herbs, herb tee shirts, and herb book sales will benefit the restoration of the herb garden behind Tower Grove House.

Sat.–Sun., May 17–18
Herb Festival: Richard Bender, author of *Herbal Bonsai* will be demonstrating his bonsai techniques and signing books.

Thurs., May 22
Rose Evening: Shop open until 8 p.m. Members receive 20% off all rose products and books. Tea and food tasting from 5–8 p.m.

Weds.–Sun., June 11–15
Give Dad CDs and books for Fathers' Day. Members receive 20% off all CDs and books.

Sat.–Sun., June 14–15
Food tasting, 1–4 p.m.

Sat., June 14
Children's story time, 11 a.m.—*Verdi* and *Earthmates*

Sat.–Sun., June 28–29
Food tasting, 1–4 p.m

Sat.–Sun., June 28–29
Terry Brickler of Del Sol Jewelry trunk show, 9 a.m. to 5:30 p.m.

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Bricks donated to the Members' Entry Court at the William T. Kemper Center for Home Gardening as of March 31, 2003.

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tribute mailer

PHOTO BY MARY ANN KRESSIG

Tribute and Memorial Gift Program

A tribute is a wonderful way to honor family and friends and make a noteworthy contribution to the Garden at the same time. Tributes are perfect for birthdays, anniversaries, weddings and engagements, graduations, Mother's Day and Father's Day, or as a way to pay your respects and as an expression of sympathy. Once the tribute is made, a personal acknowledgment is immediately sent to the family or individual being honored, without reference to the size of the gift, and your tribute is listed in the next issue of the Garden's *Bulletin*. All tribute gifts are directed toward the Henry Shaw Fund, our most critical resource for operating support. A tribute envelope is included in this issue of the *Bulletin*. If you have questions regarding the program, or would like to request additional envelopes, please call Amy at (314) 577-0206, or make a tribute online at our website, www.mobot.org.

Whitmire Wildflower Garden at the Shaw Nature Reserve
Photo by Mary Ann Kressig

To see a world in a grain of sand / And a heaven in a wild flower,
Hold infinity in the palm of your hand / And eternity in an hour.

William Blake

contact information

Events hotline:	(314) 577-9400
Toll free 1-800-642-8842	
Garden Café:	(314) 577-5196
Daily, 9 a.m. to 5 p.m. (Wed. & Sat. from 7 a.m.)	
Garden Gate Shop:	(314) 577-5137
Daily, 9 a.m. to 5:30 p.m.	
Horticulture Answer Service:	(314) 577-5143
Weekdays, 9 a.m. to noon	
Main switch	(314) 577-5100
Butterfly House:	(636) 530-0076
Children's Education:	(314) 577-5140
Communications:	(314) 577-0254
Composting Hotline:	(314) 577-9555
Continuing Education:	(314) 577-9441
Corporate Partners:	(314) 577-1513
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EarthWays Home:	(314) 577-0220
Facility Rental:	(314) 577-0200
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Planned Gifts:	(314) 577-9455
Senior Programs:	(314) 577-9506
Shaw Nature Reserve:	(636) 451-3512
Tribute Gifts:	(314) 577-0291
Volunteer Services:	(314) 577-5187

Hours
The Garden is open every day except Christmas, 9 a.m. to 5 p.m. (and Wednesday evenings in summer 2003). Parking is free.

Admission
- Free for members
- General admission is $7
  $3 for St. Louis City/County residents.
- Senior admission (65+) is $5
  $1.50 for St. Louis City/County residents.
- Children age 12 and under—free.
- Admission free to St. Louis City/County residents until noon every Wednesday and Saturday throughout the year, (except Japanese Festival and Best of Missouri Market).
- Special events may require an additional fee.

Editor: Elizabeth McNulty
Designer: Ellen Flesch
Cover photo: Jack Jennings

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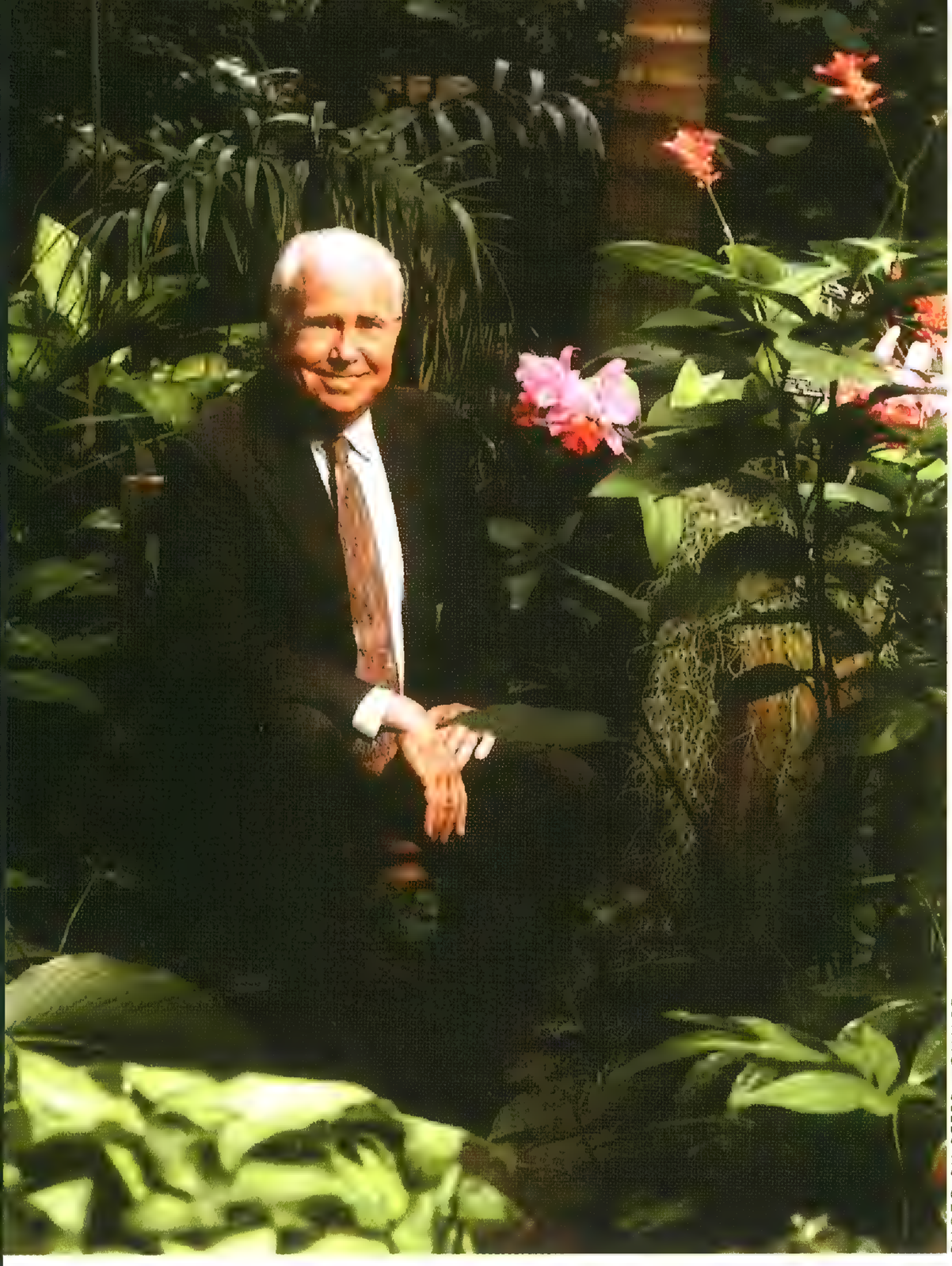

PHOTO BY PETER HOWARD

To discover and share knowledge
about plants and their environment,
in order to preserve and enrich life.

mission of the Missouri Botanical Garden

from the director...

This issue of the *Bulletin* is about the future, the future of our Garden and our contribution to the future of our planet. It is a future in which I am asking you to share.

I write with a deep sense of gratitude and appreciation for the understanding and commitment of the Garden's members of this generation and of past generations, without which the accomplishments of the past 144 years would never have been possible. I think of this every day, looking back on the experiences of my 32 years as director, remembering what we have done together. Now we are embarking on a new era for the Garden, an era for which we have set the agenda through the long-range strategic plan that was adopted by the Board of Trustees two years ago and featured in the *Bulletin* at the time.

All of us are stewards of the Earth. Surely that is why we are engaged in the work of the Missouri Botanical Garden. It is our mission. You'll find the goals of the campaign in these pages. We are very pleased that so many friends of the Garden have committed themselves before the announcement, making gifts to propel us forward, reaching nearly $60 million of the $71 million we must raise.

Join us now in this critically important enterprise. Its success will determine what our children and our children's children will discover here fifty years from now, what we have bequeathed to them, in the splendid displays at the Garden and the Shaw Nature Reserve, and in the way we educate them about ecology and science, and in our world-wide botanical research and conservation programs. I think of those children, our children, and what we are obliged to do now for them.

Peter H. Raven

Peter H. Raven, *Director*

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Missouri Botanical Garden

editor's note...

July 24 is Henry Shaw's birthday and this year we do more than honor him with a free party. The Garden is actively renewing Shaw's legacy through the work of the capital campaign. Almost 150 years ago, this civic-minded businessman bequeathed a gift to future generations: a garden to be maintained "for all time for the public benefit." This summer, the Garden enters a drive to update and restore our historical treasures, to lay the groundwork for growth in education and outreach programs, and to set a course for exciting coming attractions, such as the Children's Garden and the George Washington Carver Garden. And our members will be the first to know about all the developments. This issue of the Bulletin *provides the initial outline and key areas for fund raising; subsequent issues will cover individual aspects of the plan in deeper detail. Stay tuned for news and events and ways you can help, and in the meantime, don't miss the July-August display of lilies of all types—Asiatic, water lilies, daylilies—they're spectacular this year.*

Elizabeth McNulty, editor
elizabeth.mcnulty@mobot.org

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Stewards of the Earth

The Campaign for the Missouri Botanical Garden

The Victory of Science over Ignorance
by Carlo Nicoli, 1886

On May 7, the Garden announced a $71 million drive to strengthen our critical role in establishing St. Louis as a world leader in the plant sciences and greatly enhance biodiversity and conservation around the globe. The campaign, which also targets support for the 73-acre St. Louis campus and the Shaw Nature Reserve in Gray Summit, already has raised nearly $60 million and seeks the remainder in private gifts by 2005. The funds will support Garden research, education, and the facilities required to enhance interpretation and display.

David W. Kemper, a Garden trustee and chair of the "Stewards of the Earth" campaign, notes, "This campaign will support the emergence of St. Louis into a world center for the plant and life sciences."

Director Peter Raven says the Garden has a unique role to play among the public and private agencies working to diversify the region's economy by developing St. Louis into "the center of discovery and vitality in fields that will help secure the future of the human race."

Garden scientists discover about 200 new species of plants each year, more than any other institution in the world. "This campaign will speed the Garden's race against time," Raven said, noting that thousands of plant species are driven to extinction each year as forests are destroyed before scientists are able to identify the plants they contain.

campaign
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"We have relatively short lives, and yet by preserving the world in a condition that is worthy of us, we win a kind of immortality. We become stewards of the Earth."

Peter H. Raven

It has happened in the mountain forests of Costa Rica, and along the marshy lakesides in the Republic of Georgia, and amid the splendid isolation of Madagascar. Scientists have arrived from the Missouri Botanical Garden in St. Louis, ready to sample and collect thousands of plants—many of those plants never before studied by humans.

But they are too late. The forest has been logged. The lakeside marsh has been drained and turned to pasture. On hillsides that once produced species of plants that grew nowhere else, families now struggle to coax a crop of grain from the fast-eroding soil.

Human beings were not present on Earth to witness the last great extinction of life 65 million years ago. Today we are not only witnesses to a great extinction but also the perpetrators. Our instinct to survive and prosper is depleting the Earth's great biological diversity faster than it can regenerate.

Our world is a disappearing garden. And the rate of its destruction accelerates with the growth of human population:

• Two centuries ago, about 10 species of plants each year died into extinction, a small subtraction from the estimated 10 to 15 million species of plants that once inhabited Earth. Today we are left with about 350,000 species, and we lose thousands of those each year. At the current rate of acceleration, tens of thousands of species will become extinct each year during our children's lifetimes.

• Since 1950, the destruction of natural habitats for purposes such as logging or farming has contributed to the loss of 20 percent of the Earth's topsoil, and the pressures put on agricultural lands have made one fifth of those we were using half a century ago unsuitable for cultivation.

• Tropical forests—the Earth's great natural factories of oxygen, medicines, and foods—have been reduced to half their original range. About one third of the world's forests have been cut over the past 50 years without replacing them, and moist tropical forests, home to perhaps half of the world's plant and animal species, have been hit especially hard.

In an urban world we lose sight of the connection between plant species and the species Homo sapiens. For example, most Americans are unaware that 25 percent of modern medicines are derived from plants, and most have a connection with living organisms. Science is discovering powerful drugs in plants, such as cancer-fighting Taxol. As one species of plant yields a promising new chemical compound, however, scientists realize that it and other equally promising species are on the verge of extinction. Science is racing against time. It is a race to find thousands of unknown plant species before they are obliterated, understand their properties and potential, and perhaps secure their preservation.

Among the few institutions in the world that have a significant capacity to find and study plants, none is more active than the Missouri Botanical Garden. Garden scientists discover and describe about 200 new plant species each year in 30 countries around the globe, and organize the information about thousands of additional species, thus making an unparalleled contribution to botanical knowledge.

With 50 Ph.D. scientists on staff, working in association with hundreds of colleagues around the world, the Garden is well regarded not only for its discoveries, but also for its leadership. In 1999, the Garden brought the XVIth International Botanical Congress, a body which convenes every six years, to St. Louis—the first North American venue in 30 years. Dr. Peter Raven, who has directed the Garden's ascendance over the past 32 years, has chaired the American Association for the Advancement of Science, the National Geographic Society's Committee for Research and Exploration, and the Division of Earth and Life Studies of the National Research Council. Increasingly, the world looks to the Missouri Botanical Garden, an institution deeply rooted in St. Louis, to help define and achieve a sustainable relationship between humans and our global environment.

Stewards of the Earth

PHOTOS BY JAN OBERKRAMER

new and improved

Dana Brown Overnight Education Center

Completed...The DBOEC is a cluster of restored historic buildings, representing a new and exciting part of Shaw Nature Reserve's overall educational mission. Now complete, the center consists of four sleeping lodges (each handcrafted from 19th-century logs acquired from area farms), a shower house, and an assembly building. Sleepovers have already begun.

Commerce Bank Education Center

In progress... Over 58,000 square feet of cutting-edge classroom and office space at the corner of Kingshighway and Shaw. Scheduled to open in September, the Center will allow the Garden to expand math and scientific literacy programs among school children and to stimulate economic development in St. Louis.

Children's Garden

In planning...An exciting, dynamic new garden is already at final concept stages. Designed to introduce children at their most impressionable ages to the beauty and significance of nature, the proposed Children's Garden will draw on local and regional history to create a fun, educational experience for the whole family.

George Washington Carver Garden

In planning...Born in Missouri to slave parents, George Washington Carver was one of the nation's most distinguished agronomists and teachers. The Carver Garden will honor the man and his lifelong passion to educate citizens to the uses, and thus the value, of plants in their lives.

the key components

Over the past 30 years the Garden has emerged as the world's preeminent institution for botanical research, education, and display. Its Ph.D. research staff has grown from four to 50. Horticultural displays on the grounds have grown from 10 acres to 73. Henry Shaw left the Garden with an adequate endowment for 1889, but as our programs have grown through the years, so have our financial needs.

The capital campaign funds both the unseen Garden—our research programs throughout the world to preserve plant biodiversity before it vanishes—as well as the Garden our many members know and love, the beautiful and historic oasis in the heart of St. Louis.

Many of these improvements have already begun during the first phase of the campaign. Here for the first time for our members is an explanation of many projects you may already have noticed underway and additional items to look forward to in the future.

Above: Kids from Gateway Elementary ham it up on the bunkbeds inside one of the lodges. The new Dana Brown Overnight Education Center opened earlier this year at Shaw Nature Reserve.

Right: The Commerce Bank Education Center at Shaw and Kingshighway is nearing completion. It is scheduled to open in September.

PHOTO BY ELLEN FLESCH

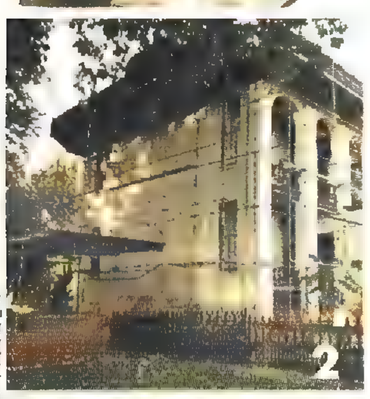
PHOTO BY MARY BUTKUS

have you noticed?

Our Garden needs some TLC

Founded in 1859, our Garden is one of the oldest botanical parks in North America and a National Historic Landmark. Shaw cut no corners in his commissions, hiring the foremost architects and builders of his era. These lovely structures have lasted the test of time, but all structures require repair and maintenance.

You may have noticed some of the evidence...cracked pavement, crumbling brick, grime-caked masonry, rusted-out wrought iron fencing. During the first phase of the campaign, the Garden began some of the necessary repairs, but there are many more still to come.



PHOTOS BY 1 ANDREW COLLIGAN 2 TIM PARKER 3 BETH HALL 4 JACK JENNINGS 5 TIM PARKER

1. Herb Garden

*In progress...*Begun in fall 2002, renovation of the St. Louis Herb Society Herb Garden behind Tower Grove House was much needed. Over the years, brick paths had settled and cracked, the perimeter fencing was kaput, and the original wall needed resurfacing. The garden reopened in June 2003.

2. Tower Grove House

*Complete...*Completed in 1850, Tower Grove House is a National Historic Landmark requiring ongoing repair and renovation. The roof was replaced in 2001, but the interior is currently closed to the public for reinterpretation.

3. Shaw's Original Townhouse

*In progress...*In 1891, according to Shaw's Will, his downtown home at the corner of 7th and Locust was removed and reassembled on Garden grounds. Together with the 1909 Shoenberg Administration Building addition, the townhouse is currently undergoing historically-sensitive cleaning.

4. Museum Building

*In planning...*Built by Shaw in 1859 to house his herbarium, library, and natural history specimens, the Museum Building was quickly outgrown by the Garden's collection and has been closed to the public since the 1970s. Inside, treasures include original glass-lined cabinets and an atrium with botanical fresco on the ceiling. Awaiting renovation.

5. Historic Structures

*In planning...*While the original gate house, perimeter stone wall, and wrought-iron fencing in the Mausoleum area might not be as noticeable, the need for restoration is real.

Wear and Tear, Efficiency

*Ongoing...*The Garden accomodates hundreds of thousands of visitors per year, creating substantial wear and tear. Improvements to pathways and waterpipes may not be glamorous, but are much needed. The Garden's commitment to sustaining the environment begins at home. We must replace antiquated and worn-out mechanical systems with modern, energy-efficient, and environmentally friendly models.

we're good neighbors

Henry Shaw in his will charged the trustees with ensuring that the areas adjacent to the Garden be "pleasant and attractive" to visitors. That was in 1889. Today, the Garden is challenged to strengthen and revitalize those neighborhoods. In a community-based planning and implementation process initiated by the Garden, neighborhood residents are leading a revitalization program. Eleven million dollars in funds have already been committed by the Garden, city of St. Louis, state of Missouri, and federal and private agencies. The *Stewards of the Earth* campaign is part of a strategy to raise additional financial investments.

Above: Garden staff and volunteers maintain one of the neighborhood beautification gardens.

PHOTO BY IRENT FOLTZ

"This drive provides a unique opportunity to participate in the future of the Garden," says Director of Development Patty Arnold. For more information on how you can help, please contact her office at (314) 577-5120.

sizzling summer

Sure, it's hot, but what better way to beat the heat than a lovely twilight stroll through lush and verdant gardens of July and August. The signature water lilies are gorgeous this time of year, and an evening stroll allows you to see some of them closing at day's end. Every Wednesday night from Memorial Day to Labor Day, the Garden will be open free to the public from 5 to 8 p.m. In addition, for the first time ever, every Wednesday will also feature musical entertainment. A tune on the breeze, light snacks from the Café, souvenir gifts in the Gate Shop… Wonderful Wednesdays should become a wonderful habit for our members this summer.

Oliver Sain at Whitaker Music Festival 2002.

Whitaker Music festival

at the Missouri Botanical Garden

Don't miss the second half of the Whitaker Music Festival, as the series continues, now bigger than ever, with nine shows to celebrate its ninth anniversary. When the sun goes down, the stage lights come up and music fills the air on these glorious July nights. Pack a picnic, or purchase snacks from Catering St. Louis, and enjoy a concert every Wednesday under the stars…

Whitaker Music Festival
Wonderful Wednesdays
July 2–30
7:30–9:30 p.m.
free to the public

July

2 ***Vargas***
jazz on the cutting edge

9 ***Farshid Etniko***
Latin jazz with a Persian flavor

16 ***Raven Moon***
bluegrass, folk, and more…

23 ***Ralph Butler Band***
"Public Entertainer Number One!"

30 ***Dan Rubright***
jazz guitarist

founder's day

Henry Shaw established the Missouri Botanical Garden "for the public benefit," and was honored in countless ways during his lifetime for the contributions he made to the growth and prosperity to the city of St. Louis. On his birthday—July 24—we honor his memory again by opening the Garden free to the public. Bring your friends and come meet Henry Shaw himself (!) and enjoy old-fashioned entertainment including an organ-grinder, a silhouette artist, a stilt walker, a Victorian fashion parade and birthday refreshments.

Henry Shaw's Birthday
Thursday, July 24
10 a.m. to 3 p.m.
Spoehrer Plaza

Japanese Festival 2003 Year of the Persimmon

Summer wanes. As autumn approaches, so too does the season for *kaki*, the persimmon, the theme of the 2003 Japanese Festival. The persimmons of Japan and America are related botanically, though very different fruits. American persimmons are the size of large marbles and intensely sweet. Japanese *kaki* grow to the size of billiard balls and have a firmer and more subtle flavor. Both persimmons, if eaten before they ripen, have a puckering astringency called *shibui* in Japanese, a word that is also used to define the aesthetics of the severely simple and understated. In both America and Japan, the persimmon symbolizes the final moments of summer, the end of another harvest, the completion of another cycle, the autumnal sense of things finished and of a new season on its way. It is a fitting symbol for the 2003 Japanese Festival on Labor Day weekend.

The ceremonial sake keg-breaking opens the ceremony. Back by popular demand at the 2003 Japanese Festival, the Candyman will spin taffy works of art for children lucky enough to meet him. Children can also help pull the *dashi* in the wagon parade, spin *edo* tops, and participate in a variety of other activities. From tea ceremonies and cooking demos to the kimono fashion show and martial arts displays, and from bonsai and ikebana botanical arts to candlelight tours of *Seiwa-en*, these three days are packed with fun for the whole family.

Japanese Festival

August 30, 31, and September 1
10 a.m. to 10 p.m., Sat. and Sun.
10 a.m. to 5 p.m., Mon.
Admission: $10 adults,
$7 seniors, $3 members.
Free to children 12 and under.

Festival 24-hour information line:
(314) 577-9400 or 1(800) 642-8842

New this year!

- first-time visit of the Hinode Taiko drum troupe from Winnipeg, Canada
- an exclusive exhibit of traditional Japanese dolls, only to be seen in four cities in the U.S. this year
- a special presentation of Japanese youth culture phenomenon, the animated film art of *anime* by A.J. Trujillo, owner of Star Clipper Comics
- a modern adaptation of *Noh* theater, presented by the Mostly Harmless Theatre Company of St. Louis

- **Taiko drummers**
- **Tea ceremonies**
- **Candlelight tours of *Seiwa-en***
- **Candyman**
- **Martial arts**
- **Kimono fashion show**
- **Processions of Nagamochi, Omikoshi, and Dashi**
- **Bonsai and Ikebana botanical arts**

Japanese marketplace, food, and much, much more!

The 2002 Japanese Festival opening ceremony. St. Louis Mayor Francis G. Slay, Trustee William H. T. Bush, and the Consul General of Japan Takao Shibata break open the sake keg in the Japanese ritual of kagamiwari.

PHOTO BY DIANE WILSON

The Caler family: Ellie and June (seated) with Jeffrey, Gary, and Andrew. June Caler is the daughter of the Saxdals.

Saxdal Memorial Dedication

On Thursday, May 22, the Garden dedicated a bench in the Lehmann Rose Garden in memory of Priscilla and Alfred Saxdal. The Saxdals ran their own St. Louis nursery specializing in roses and chrysanthemums for 15 years before Alfred was hired to be the Garden rosarian (rose specialist) in 1963. He and Priscilla took up residence in the Cleveland Avenue gate house on Garden grounds and were renowned for their dedication and attention to the Garden's needs 24 hours a day. Through their efforts, the Lehmann Rose Garden was developed into the master rose display and All America Rose Selection test garden it is today. They also worked tirelessly to restore the Gladney Rose Garden, and Alfred supervised the design and planting of the chrysanthemum areas each fall as Grounds Superintendent. Priscilla joined the staff in 1969 to tend the Tower Grove House herb garden. Alfred passed away in 2000, and Priscilla in 2002. "The many and splendid contributions of this dynamic duo will not soon be forgotten," says Garden Director Peter Raven. "Their dedication and friendship will be greatly missed."

PHOTO BY LINDA GASS BURGESS

Angie Eckert, Dr. Peter Raven, and Dr. Elmer Kirchoff review artwork from the exhibit at a Shaw's Garden East meeting.

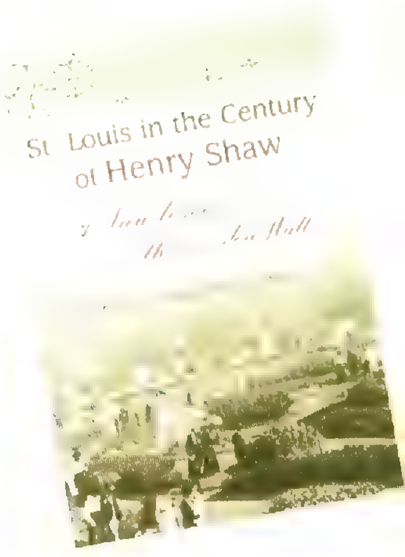
Poisons in Your Path

On Saturday, August 2, the Missouri Botanical Garden will team up with the Schmidt Art Center and the Illinois Extension Center to offer "Poisons in Your Path," a family event to help identify and manage potentially dangerous plants and chemicals in your garden. Located on Southwestern Illinois College's Belleville Campus, the event is being held in conjunction with an exhibit of art by botanical illustrator Anne Ophelia Dowden from her recent title *Poisons in Our Path: Plants That Harm and Heal*. A variety of fun and educational programming is scheduled from 10 a.m. to 4 p.m., and food will be available for purchase. Garden educator Amy Haake engages young and young-at-heart in the science of plants. The Illinois Poison Control Center instructs on protecting children from poisonous plants and garden chemicals. Gateway Wildlands director Valerie Vartanian lectures on invasive plants. She will also present the book *If Animals Eat That, Why Can't I?* For more information, call 1-800-222-5131 extension 5278 for details.

September 29 is the annual brick party, when donors of engraved bricks in the Members' Entry Court at the Kemper Center get together for drinks, appetizers, and music. Don't miss out! Order your brick by August 29 to ensure proper installation before the party. Call Kathleen Kellerstrass today at (314) 577-0874.

The Reviews are In...

Published jointly by the University of Missouri Press, the Missouri Historical Society, and the Missouri Botanical Garden, *St. Louis in the Time of Henry Shaw* debuted in March of this year, and author Eric Sandweiss lectured and signed books at a crowded event late that month. The title chronicles the rise of St. Louis as a commercial center in the 19th century, and takes Garden founder Henry Shaw's life as a point of departure. Reviews have been overwhelmingly positive: "fascinating....insightful...a useful addition." Joseph Losos writes in the *St. Louis Post-Dispatch* "Shaw...secured his place in history as perhaps the foremost creator of our civic institutions and spaces...These articles take the 89-year span of Shaw's life and his varied contributions as a background, a kind of florid stagesetting, and pursue diverse themes of urban development... Anyone who collects books on our civic path should own this volume." Stop by the Garden Gate Shop and get your copy today.



just for members...

Happy Birthday, Henry

In honor of Henry Shaw's July birthday, Mary Jane Kirtz, long time Garden Docent with a special interest in the life and times of Shaw, will present a lecture and slideshow highlighting Henry Shaw's last decade. "Finishing Up: Henry Shaw Prepares the Garden and Tower Grove Park for Life After Shaw" presents the era during which Shaw acquired sculpture for the Garden, chose his successor, posed for his tomb monument, and provided for the Garden's future. It features many rarely seen images from the Missouri Botanical Garden Archives.

Members' Day Event
Henry Shaw Birthday
Thursday, July 24
11 a.m.
Shoenberg Auditorium

Vintage de Missouri

Wine has a long and distinguished history at the Garden, borne of Henry Shaw's personal interest—he kept over 2,000 bottles in his cellar. Is there room in your garden for a few grape vines? Join us for an informative program focusing on the increasingly popular Missouri wine region. Learn more about area wines and wineries from a group of local wine experts. After the presentation, we will walk to the experimental gardens at the Kemper Center and view the new grape arbor with its second year planting of grapes selected to thrive in the St. Louis climate.

Members' Day Event
Missouri Wineries
Friday, August 8
11 a.m.
Shoenberg Auditorium

Big Thanks

Congratulations to our Mother's Day Luncheon and Fashion Show co-chairs Nancy Sauerhoff and Janet Lange for organizing this popular event sponsored by Dillard's. Special thanks to our guest emcee Vickie Newton, of News 4 St. Louis.

And while our hats are off, let's say thanks again to our very special Rose Evening sponsor, Tiffany and Co., to our co-chairs Andrea Tramelli and Angie Eckert, and to our many volunteers who made this a very special way to start the summer season at the Garden.

PHOTO BY DIANE WILSON

Pictured from left to right: Lonnie Garden, Ivie Clay, Ellen Dubinsky, Lillian Deutsch, Director of Development Patty Arnold, Members' Board President Marsha Rusnack. Seated: Vickie Newton, Mary E. Lloyd, Pearlie Newton.

members on tour

Did you know you could take your membership on vacation? As a Garden member you are eligible to visit over 150 botanical gardens, arboreta, and conservatories throughout the United States and Canada, free of charge. Your Garden membership automatically enrolls you in the American Horticultural Society 2003 reciprocal garden program. You are also eligible for additional discounts at participating gardens. For a list of participating gardens stop by the Membership Services Desk in the Ridgway Center or call the Membership office at (314) 577-5118.

Free admission: to the Garden, including the Garden Café, Shaw Nature Reserve, and EarthWays Home for two adults and all children under age 18 for one year. Discounts on admission to Garden public events.

Free publications: including the *Bulletin*, 6 issues a year filled with information and activities at the Garden, Shaw Nature Reserve, and Sophia M. Sachs Butterfly House, plus home horticulture advice from the experts at the Kemper Center for Home Gardening.

Flower show parties: Previews of the annual holiday flower and orchid shows.

Monthly members' days: Special programs presented exclusively for Garden members and their guests feature free tram rides, 10% off in the Garden Café, and special discounts in the Garden Gate Shop.

Discounts: Members receive 10% off all purchases in the Garden Gate Shop, with annual spring, fall, and holiday sales of 20% off, plus special rates on selected educational courses.

Members' travel: Special trips explore public and private gardens around the world.

Reciprocal admission: to over 150 selected botanical gardens around the country.

Discounted subscription rate:
for *St. Louis Homes & Lifestyles.*

Shaw Nature Reserve

Summertime is Prairietime!

by Dr. James Trager, restoration biologist

Tallgrass prairie is a North American original, found exclusively in the higher-rainfall, eastern portion of the Great Plains of the United States and southern Canada. The sweeping landscape of head-high grasses flecked with innumerable wildflowers in the summer prairie is a stunning sight. Just 200 years ago, all the level parts of the landscape of what is now Missouri and surrounding states, north to Manitoba and Ontario and south to Texas, were covered in prairie.

The prairie ecosystem was in large part created and nurtured by the "fire culture" of Native Americans, who regularly burned the grasslands to stimulate a fresh regrowth of grasses, thus attracting game animals, such as bison and elk, for easier hunting. Many of the plants of the prairie were useful to the American Indians, providing food, fiber, and medicine. When European settlers arrived in the 1700s and 1800s, they brought with them the agricultural ways that ultimately destroyed the integrity of the prairie ecosystem.

Few fragments of prairie remain, and these are widely dispersed, making this one of the most critically endangered ecosystems on Earth. In 1980, the staff of Shaw Nature Reserve, in cooperation with the Missouri Prairie Foundation and Missouri Department of Conservation, began an effort to plant prairie vegetation in the pasture and agricultural land on the property, an effort which continues to this day. Today, there are over 250 acres of restored prairie at the Reserve, home to over 200 native plant species (and counting!) as new species are discovered and introduced each year.

This diversity provides the basis of a thriving ecosystem, which, though originally "synthetic," now has a life and evolutionary course of its own. The abundance of seeds, foliage, and rich insect life are eaten by (arguably) the largest populations of Eastern kingbirds, Common yellowthroats, Indigo buntings, Goldfinches, Bluebirds, Blue-winged warblers, and Yellow-breasted chats in the St. Louis region. Even strict prairie species such as Sedge wrens, Henslow's sparrows, and a pair of Northern harriers have bred here over the years. Beneath the grasses, healthy populations of small mammals provide food for other predators.

As many prairie remnants continue to succumb to neglect (especially, lack of fire) or outright destruction (plowing), the prairie plantings of Shaw Nature Reserve have become a refuge of ever-increasing value. So, put on some comfortable walking shoes, a floppy hat, sunscreen, and bug repellent, and experience the SNR prairie this summer. Prepare to be amazed at the prairie's wild beauty.

Established by the Missouri Botanical Garden in 1925, the Shaw Nature Reserve is in Gray Summit, MO, 35 miles west of St. Louis on I–44 (Gray Summit exit 253). In addition to the Whitmire Wildflower Garden, the 2,400-acre reserve is also home to the restored Bascom House (1879) and 14 miles of hiking trails. Grounds are open daily 7 a.m. to one-half hour past sunset. For information, call (636) 451-3512.

Grow Native!

You may have seen the bumper stickers and thought it was a collegiate tribal movement, but Grow Native! (yes, the exclamation point is part of the name) is actually a program of the Missouri Department of Conservation aimed at increasing biodiversity through the use of native plants. Since 2000 the Grow Native! program has worked to increase both supply and demand for native plants through marketing and education efforts, often collaborating with Shaw Nature Reserve.

"We share a mission," says John Behrer, Director of the Shaw Nature Reserve. "The Whitmire Wildflower Garden provides a place for people to see real-life application of native plants they have heard about through Grow Native!"

"Grow Native! seeks to make native plants the first choice on public and private land," says Judy Allmon, program coordinator for the program at the Missouri Department of Conservation. "Shaw Nature Reserve's many examples of the beauty of our native flora helps inspire and educate homeowners to ask for these plants from their local nurseries."

From the Grow Native! website (www.grownative.org), here are some answers to commonly asked questions about our local vegetation.

What is a native plant?

A plant that originated in Missouri and was not introduced, i.e., a plant that existed within what are now the state borders prior to the arrival of settlers.

Why should I plant natives?

Having grown and evolved here, native plants are specially suited to local soil, water, weather, and wildlife conditions. They do not require fertilizers, pesticides, nor long-term maintenance. Natives are winter hardy and drought tolerant; they are less prone to destructive insects and diseases.

Why do native plants require less water than non-native plants?

Natives require little or no watering once they are established, thanks to their incredible root systems which support them in times of drought. Many prairie natives' roots extend 4–8 feet into the soil. By comparison, the roots of cool-season, non-native grasses such as Kentucky blue grass only extend a few inches.

Aren't native plants weedy?

As in all landscapes, matching the right plants to a given set of conditions is key. Some sun-loving prairie plants become weedy if they are grown in soil that is too rich in organic matter, while shade-dwellers prefer the rich loam of the forest floor. In small spaces, select natives that grow as distinct individual clumps.

Do natives attract vermin?

That answer depends on what you call vermin! Butterflies and bees are attracted to the nectar of native wildflowers. Native fruit-bearing trees and shrubs attract songbirds and game birds for a free meal, especially in fall and winter. Native plants provide protective cover and nesting sites for a wide variety of wildlife. So yes, natives do attract a wonderful array of wildlife that adds interest to our lives.

Where can I buy native plants?

Go to the "Where to Buy" section of the Grow Native! website (www.grownative.org) for a current list of businesses selling native plants to the public.

natives in the 2003 plants of merit program

The Garden launched the Plants of Merit program in 2000 to promote plant selections that are underutilized in the home landscape, and this year nine natives are featured. See them in the display beds at the Kemper Center for Home Gardening.

Amsonia tabernaemontana (Blue Star)

Aster oblongifoloius (Aromatic aster)

Lobelia cardinalis (Cardinal flower)

Silphium laciniatum (Compass plant)

Aesculus pavia (Red buckeye)

Amelanchier arborea (Serviceberry)

Chionanthus virginicus (White fringetree)

Nyssa sylvatica (Black gum)

Physocarpus opulifolius (Ninebark)

PHOTO BY JACK JENNINGS

EarthWays Home

Responsible use of all resources is one goal named in the Garden's Environmental Policy Statement. These hot summer months are a great time to save costly energy resources while keeping cool and comfortable.

Here are some helpful tips:

- Annual maintenance of your air conditioner increases operating efficiency. When replacing your air conditioner, consider one rated at 12 SEER (Seasonal Energy Efficiency Rating) for most efficient use of natural resources and your dollars.
- Programmable thermostats allow you to cool down your home in the afternoon in time for your evening return, saving you up to 15 percent of your bill.
- Whole-house fans pull cool air through the house and exhaust warm air through the attic very effectively when operated at night.
- White window shades, drapes, and blinds reflect heat away from the house especially on south and west facing windows during the day. Awnings also provide good shade.
- Keep thermostats as high as is comfortable; use interior fans and seal air leaks in ductwork.
- Take a stroll on the shady grounds of the Missouri Botanical Garden.

For additional tips, visit the Department of Energy's website at www.eren.doe.gov/consumerinfo/energy_savers or call the Garden's Gateway Center for Resource Efficiency at (314) 577-0220.

A division of the Garden since 2000, the Gateway Center for Resource Efficiency is headquartered in the EarthWays Home, a century-old Victorian house renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. Located in the historic Grand Center theater district at 3617 Grandel Square. Tours are available on the third Friday and Saturday of each month. Call (314) 577-0220.

Solar panels at the EarthWays Home in Grand Center

Harnessing the Summer Sun

As the heat of the summer sun hits the Earth's surface, power is being generated at the EarthWays Home, headquarters of the Garden's Gateway Center for Resource Efficiency. Located in Grand Center, the EarthWays Home is a century-old Victorian house renovated in 1994 using environmentally friendly practices and products including a photovoltaic solar array.

Photovoltaics are modeled on the process of photosynthesis, when a leaf transforms light energy of the sun into chemical energy. Photovoltaic solar cells convert sunlight into usable electrical energy. At the EarthWays Home, this electrical energy is stored in eight standard marine batteries, providing readily available power to run kitchen appliances even when the sun is not shining.

Solar power is now a key source of electricity in many parts of the country where utility costs have escalated. Though energy rates in the Midwest are low, improvements in solar energy technology are close to making solar power cost-competitive in our local market. Solar energy should be a major consideration when looking to reduce our dependence on limited fossil fuel resources.

Visit the EarthWays Home on Open House Days, the third Friday and Saturday of every month to learn more about solar power and other energy saving innovations. Tours begin at 10 a.m., 11 a.m., noon, and 1 p.m. and are always free to Garden members.

A division of the Garden since 2001, the Sophia M. Sachs Butterfly House features butterflies in free flight inside a glass conservatory as well as outdoor habitats. Located in Faust Park, Chesterfield, MO, the Butterfly House is open Tuesday through Sunday 9 a.m. to 4 p.m. (5 p.m. in summer). For information, call (636) 530-0076.

PHOTO BY MARK DEERING

Butterfly House

come fly with me

Butterflies won't be the only things flying today at the Butterfly House. Witness soaring birds of prey, radio-controlled sailplanes, and take a peek inside a real hot air balloon. Activities and make-'n'-take crafts included with regular admission. Call (636) 530-0076, ext. 10 for specific event times. Sat., July 19. 10 a.m. to 3 p.m.

rock-a-bye butterfly

While we dream our nights away tucked safely in our beds, chrysalides are busily changing into beautiful butterflies. Learn about metamorphosis as you sculpt a papier-mâché chrysalis and join in fun activities and stories. Designed for kids 3–10 years. Free with regular admission. Sat., Aug. 23. 11a.m. to 2 pm.

bag it for the butterfly house

The Butterfly House is seeking donations of vintage, new, and nearly new designer handbags from our stylish friends. In September, they will be auctioned at the LadyBag & Butterfly Luncheon to raise funds for science education outreach programs. If you have a marvelous minaudiere or a gorgeous Gucci stashed away, donate it to a good cause and take a tax deduction. Call (314) 361-3365 for more information.

Crazy Caterpillars

They're cute, cuddly, and creepy all at the same time: get the scrunchy low-down on caterpillars in the fourth installment of the Spectacular Spineless Species series at the Sophia M. Sachs Butterfly House this August. Sticks and mantids are still viewable through the end of July, but then get squeezed out as the caterpillar exhibit wiggles in with live animals and little-known facts about these squishy, immature insects.

Caterpillars, which are the larval stage of butterflies and moths, exist in a wide range of appearances which might not charm you as much as *A Bug's Life's* Heimlich the Bavarian. Some look like sticks or bird droppings. Others imitate snakes, and certain species (such as the caterpillar of the Lonomia moth in Brazil) are so toxic they cause more human deaths annually than snakebites! Caterpillars offer a full arsenal of defenses: some have large eyespots or bright colors to scare off potential predators; others like the caterpillars of the Black Swallowtail butterfly have glands that give off a foul smell when disturbed; still others regurgitate when disturbed to disgust would-be eaters.

Caterpillars are eating machines. They live to eat. A caterpillar's first meal is almost always its own eggshell, and it continues from there. While some species eat only one kind of plant, others eat a variety of materials, including leaves, dead wood, live animals, beeswax, wool clothing, animal hides, cacti, and much more. Most caterpillars shed their skin five times as they grow, with some moth caterpillars taking five years to do so! Nine out of 10 caterpillars develop into moths. And please note: no butterfly forms a cocoon. Butterfly caterpillars change into a *chrysalis*.

An adult lecture will be presented on caterpillars on Saturday, August 16 at 2 p.m., and a children's class will be held on Saturday, September 13 at 10 a.m. Both are free with admission to the Sophia M. Sachs Butterfly House and with upper-level Garden membership.

calendar of events

July

Upclose and Personal

This July and August, don't miss Dr. Peter Raven on Charter Communication's popular original program *Visionaries*. The 30-minute show is a motivational program highlighting the region's most prominent business leaders. Dr. Raven's segment will air nightly at 6 p.m. the first two weeks of both July and August on Charter Channel 3.

Now through August
Garden admission is free on Wednesdays after 5 p.m. for all visitors, with musical entertainment every evening.

Now through July 31
Sticks and mantids on now as part of the "Spectacular Spineless Species" series. Activities, games, and displays. Tues. to Sun., 9 a.m. to 5 p.m. BH. $

Now through July 25
"Beyond Light" exhibit of X-rayography art by Albert Koetsier. 9 a.m. to 5 p.m. RC.

Now through Aug. 22
Cacti and succulent photography exhibit by Steve Feiner. 9 a.m. to 5 p.m. RC.

Wed., July 2, 9, 16, 23, and 30
Whitaker Music Festival, free outdoor concert series. See details on page 8. 7:30 p.m. CA.

Fri.–Sat., July 4–5
Silver Cat jewelry trunk show. 10:30 a.m. to 5 p.m. GGS.

Sat., July 12
StoryTime, for children ages 4 to 10. Children under age 4 must be accompanied by an adult. Dressed in authentic Mayan clothing, author Rachel Crandell will read excerpts from her book *Hands of the Maya—Villagers at Work and Play*. For young readers. 11 a.m. GGS.

Fri. & Sat., July 18 & 19
Tour the EarthWays Home at Grand Center, now open the third Friday and Saturday of each month. This century-old Victorian home renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. $2 (free for Garden members). Call (314) 577-0220. Tours at 10 a.m., 11 a.m., noon, and 1 p.m. EH.

Sat., July 19
Barbara Perry Lawton, author of several popular works (*Seasonal Guide to the Natural Year*, *Magic of Irises*, *Mints: A Family of Herbs and Ornamentals*), reads and signs books. 1 p.m. GGS.

Mike Miller, Host of the KMOX Garden Hotline, signs copies of his book *Missouri Gardener's Guide*. 3 p.m. GGS.

"Come Fly With Me" at the Butterfly House. See page 14 for details. Call (636) 530-0076, Ext. 10 for specific event times. BH. $

Sat. July 19 through Sun., July 27
Henry Shaw Cactus Society show and sale attracts growers and viewers from throughout the U.S. July 19 from noon to 5 p.m. July 20–27 from 9 a.m. to 5 p.m. RC.

An exhibition of Plants as Art will be held in conjunction with the cactus show, and will feature plants ranging from miniatures to trees, each with a unique structure that invites the viewer to see it as a living sculpture. RC.

Thurs., July 24
Henry Shaw's birthday. Help us celebrate the 203rd anniversary of our founder's birth. Admission free to all. Members receive 20% off all merchandise in the Garden Gate Shop.

Sat., July 26
Painting demonstration by Leslie Faust. 1–3 p.m. GGS.

Sun., July 27
Steve Henry, author of *60 Hikes within 60 Miles of St. Louis*, reads and signs books. Noon.

Tom Terrific, butterfly enthusiast and author of *Butterfly Gardening: How to Bring Butterflies and Flowers into Your Life*, reads and signs books. 2 p.m. GGS.

August

Fri., Aug. 1 through Tue., Sep. 30
Caterpillars on now as part of the "Spectacular Spineless Species" series. Activities, games, and displays. Tues. to Sun. 9 a.m. to 5 p.m. BH. $

Fri., Aug. 1 through Sun., Aug. 31
"Reflections of Shaw Nature Reserve," paintings by plein air artists Mary J. Telle and Karen Burke. 10 a.m. to 4 p.m. SNR.

Sat., Aug. 2
Greater St. Louis Iris Society sale. 10 a.m. to 5 p.m. RC.

Sun., Aug. 3
Orchid Society of Greater St. Louis auction. 11:30 a.m. to 5 p.m. RC.

Fri., Aug. 8
Wine and food tasting at the shop. Noon to 3 p.m. GGS.

Fri. to Sun., Aug. 8–10
Enjoy 20% off all wind chimes in the Garden Gate Shop.

Sat., Aug. 9
StoryTime, for children ages 4 to 10. Children under age 4 must be accompanied by an adult. *A Place to Grow and So Slow*. 11 a.m. GGS.

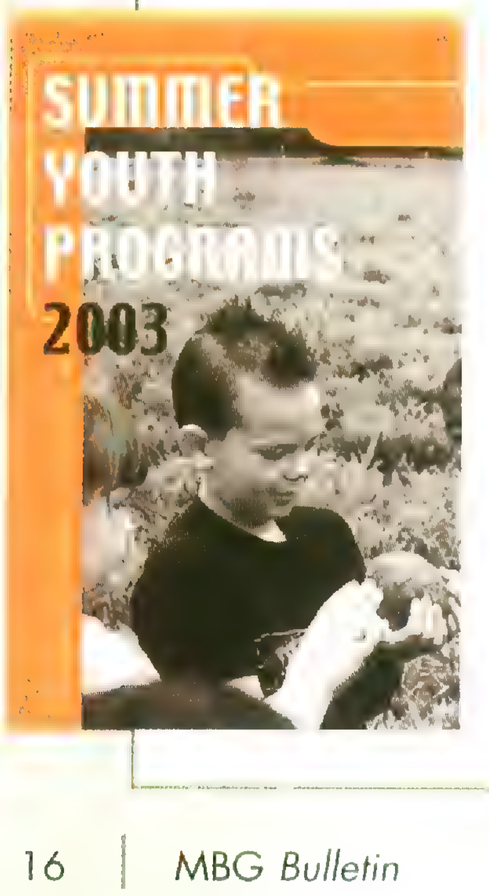
Greater St. Louis Iris Society bearded iris auction. Noon to 5 p.m. KC.

Sun., Aug. 10
Missouri Botanical Garden Daylily Society sale. 9 a.m. to 5 p.m. RC.

Fri. & Sat., Aug. 15 & 16
Tour the EarthWays Home at Grand Center, now open the third Friday and Saturday of each month. This century-old Victorian home renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. $2 (free for Garden members). Call (314) 577-0220. Tours at 10 a.m., 11 a.m., noon, and 1 p.m. EH.

Fri. to Sun., Aug. 15–17
Food tasting. 1–4 p.m. and Garden members receive 20% off all food items. GGS.

Summer Youth Programs



Looking for educational ways to entertain your kids this summer? The Garden's Summer Youth Programs started June 9, but run throughout the summer. Courses are offered for pre-K through high school. Programs take advantage of the Garden's many sites, the talented instructors, and the excitement of summer vacation. This summer's courses explore nature, insects, rain forests, dinosaurs, flying animals, adventure, and of course plants. To obtain a brochure you can call (314) 577-9506, email summeryouthprograms@mobot.org, or visit the Garden website, www.mobot.org.

PHOTO BY JACK JENNINGS

Plan your holiday events now with Catering St. Louis,

the exclusive caterer of the Missouri Botanical Garden.

Call (314) 577-0200.

September

Sat., Aug. 16
"Be A Butterfly" workshop for parents and pre-schoolers. Five species of native Missouri butterflies and moths are featured as children dress up and search for plants, "lay an egg," and "sip nectar." 10 to 11 a.m. $10 non-members, $8 Butterfly House or Garden members. BH. $

"Nature's Pruners: Caterpillars."
An in-depth presentation for adults about everyone's favorite immature insects: caterpillars! Learn more about the insects that these little creepy crawlies become and what they do on a daily basis. 2 p.m. BH. $

Sun., Aug. 17
Greater St. Louis Daylily Society sale. 9 a.m. to 5 p.m. RC.

Greater St. Louis Rose Society talk by Ann Peck, an expert on the Rose Rosette Virus. 2 p.m. RC.

Fri. to Sun., Aug. 22–24
Members receive 20% off all furniture in the Garden Gate Shop.

Beginning Mon., Aug. 25
Fall classes and tours at the Garden for adults and families: more than 100 classes offer fun, educational opportunities for many interests, schedules, and budgets. Classes in four locations. Single- and multiple-session classes are offered in plant care, landscape design, art, cooking, botanical arts and crafts, photography, and more. For information on classes at the Garden, visit www.mobot.org/gardeninghelp or call (314) 577-9441.

Thurs. Aug. 28 to Wed., Sep. 3
Japanese art exhibition. RC.

Sat., Aug. 30 through Mon., Sep. 1
Japanese Festival. See page 9 for details. Sat.–Sun., 10 a.m. to 10 p.m. Mon., 10 a.m. to 5 p.m.

Now through Tue., Sep. 30
Caterpillars on now as part of the "Spectacular Spineless Species" series. Activities, games, and displays. Tues. to Sun. 9 a.m. to 5 p.m. BH. $

Mon., Sep. 1
Japanese Festival continues, 10 a.m. to 5 p.m. See page 9.

Wed., Sep. 3
St. Louis Times Fun Fest. Entertainment, vendors, and a 10% discount in the Garden Gate Shop for Fun Fest participants. 9:30 a.m. to 1:30 p.m. RC.

Mon., Sep. 8 through Nov. 14
Jack Jennings photography exhibition celebrates 25 years of the four seasons at the Garden. RC.

Wed., Sep. 10
"Be A Butterfly" workshop for parents and pre-schoolers. Five species of native Missouri butterflies and moths are featured as children dress up and search for plants, "lay an egg," and "sip nectar." 10 to 11 a.m. $10 non-members, $8 Butterfly House or Garden members. BH. $

Fri. to Sun., Sep. 12–14
Native Plant Conference. For information and registration, call (636) 451-3512. 10 a.m. to 4 p.m. SNR.

the key

All events are free with admission or membership unless otherwise noted.

BH = Butterfly House
CA = Cohen Amphitheater
CL = Climatron
EH = EarthWays Home
GGS = Garden Gate Shop
JG = Japanese Garden
KC = Kemper Center
MC = Monsanto Center
RC = Ridgway Center
SNR = Shaw Nature Reserve
SP = Spink Pavilion
* denotes a Members-only event.
$ denotes an additional fee.

Hands-on learning activities
are offered by volunteers on the weekend. Look for the colorful Volunteer Interpretive Carts on the Garden grounds.

Great Garden Adventures
Take a self-guided "Great Garden Adventure" tour. Ask at the ticket counter about a Fitness Foray, Stroller Strut, Kids' Quest, or Guided Exploration. Wheelchair-friendly route also available.

Walking tours led by Garden Docents leave from the ticket counter at 1 p.m. daily throughout the year (except during Japanese Festival and Best of Missouri Market).

Garden walkers' breakfasts
In cooperation with the American Heart Association, the grounds open early every Wednesday and Saturday at 7 a.m. to encourage fitness walking. A light breakfast is available for purchase in the Garden Café.

Tower Grove House,
Garden founder Henry Shaw's 1851 country home is closed for reinterpretation until late 2004.

A Special Event to Benefit Gateway Greening

CHEFS IN A GARDEN

Join us on **Sunday, September 14** for an evening of wonderful food prepared by 10 of the most talented and creative chefs in St. Louis. Chefs such as Dave Owens of Cardwell's at the Plaza, Cary McDowell of Liluma, Matt Maguire and Kirk Warner of King Louis, and Steve Gontram of Harvest will be using herbs and vegetables grown by community gardeners to prepare a wonderful assortment of great-tasting dishes. Dinner will be served at SqWires in Lafayette Square, and, weather permitting, diners will have an opportunity to tour one of the most beautiful community gardens in the City.

The proceeds of this event will support the efforts of Gateway Greening, a non-profit organization that works with neighborhoods in the city of St. Louis to turn abandoned lots into community gardens and green spaces. Come share our harvest and help neighborhoods fighting urban decline.

Tickets are $100 per person and corporate sponsorships are available. Please call Gateway Greening at (314) 577-9484 for more information and to purchase tickets.

PHOTO BY ELLEN FLESCH

the garden explorer

Imposter Grass

by Chip Tynan, *Horticulture Answer Service Manager*

Certain plants may be something other than what they appear to be. *Liriopes* are such imposters. Asian natives, these popular groundcovers called Lilyturf are actually members of the Lily family, but their green strap-like foliage and controlled formal appearance lead many gardeners to assume they are grasses. Two species are commonly grown locally. Blue lilyturf *(Liriope muscari)* grows 12–18 inches tall and spreads slowly by short stolons. As a rule, the best growth occurs in moist, fertile soils in part shade. Creeping lilyturf *(Liriope spicata)* is slightly shorter with narrower leaves. It can spread quickly by underground rhizomes, but not so aggressively as to become invasive in our local climate. Grow *L. spicata* in lean soils with minimal fertilizer and full sun to curb its assertive nature. Many cultivars of both species exist with green or variegated leaves. These are versatile low-maintenance plants, having excellent heat and drought tolerance along with an ability to thrive in clay soils that are well-drained. They also compete well with tree roots, making them a good choice for providing a grass-like look beneath trees. They produce pleasantly restrained flower spikes in late summer in varying white, pink, and purple shades, depending on cultivar. Not quite evergreen locally, they only require mowing once yearly in late winter before new growth occurs. While their dense growth will keeps weeds at bay, they nonetheless are excellent companions for growing over naturalized spring-flowering bulbs.

Ophiopogons (Mondo grass) are close relatives and bear such a strong resemblance to *Liriope* that they are hard to differentiate until they bloom. Flower spikes of *Liriope* are generally denser and taller, being held above the leaves. *Ophiopogon* scapes have a looser habit and are often hidden within the foliage, but this genus offers some strikingly dramatic cultivars. A super dwarf form *Ophiopogon japonicus* 'Gyoko-ryu' has glossy dark green leaves and grows just a few inches tall. It is considerably hardier than the zone 7 rating given by some sources. Black Mondo grass (*Ophiopogon planiscapus* 'Nigrescens') has some of the darkest foliage coloration among all garden plants. It requires patience on the grower's part as it can be slow to establish, but rewards such patience with a unique look in the garden.

Shown above left: Liriopes *on the Mausoleum grounds*

PHOTO BY ELLEN FLESCH

On the Garden staff since 1986, Chip Tynan manages the Garden's Horticulture Answer Service, overseeing a staff of 40 volunteers who field an excess of 20,000 questions annually. He is a well-known local columnist for the St. Louis Post-Dispatch *and regularly teaches adult education courses at the Garden, talks to gardening clubs, and appears on local TV and radio as a gardening expert. Tynan's email is chip.tynan@mobot.org.*

the website...

Plant Finder:
Cultural information on over 2,000 plants growing in the Kemper display gardens.

Find-A-Plant:
Search the living plant database to find what plants are growing in the Garden and where.

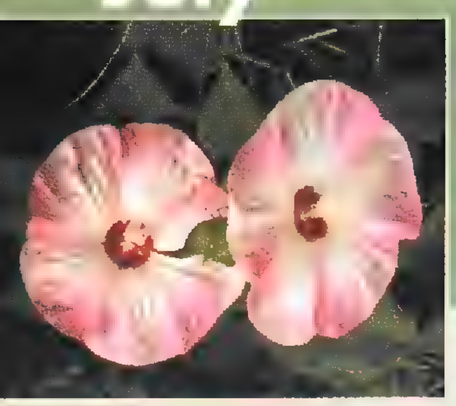
Gardening Help:
Information on over 300 gardening topics, including all Hortline messages.

Integrated Pest Management:
Diagnostic and control measures for nearly 100 of the most common insect, disease, and environmental problems encountered in Missouri.

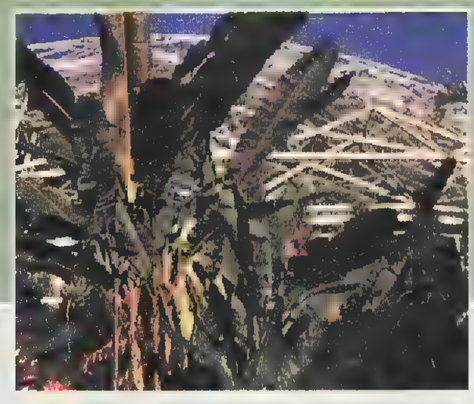
Plants of Merit:
Plants selected by local horticulturalists with outstanding qualities for dependable performance in the region.

Plants in Bloom:
Updated weekly at the Garden, along with current photos, updated biweekly.

July



August



Grow, Grass, Grow

by Scott Stelling, *Turf Manager*

July: By now you're probably in the routine of watering your lawn. The best time to water is between 5 and 10 a.m. to reduce disease occurrence. Remember: deep and infrequent watering is the key, allowing the turf to dry out between waterings. One inch of water per week (including rainfall) should be sufficient (up to 1½ inches in extreme heat). Don't guess: use an inobtrusively placed tuna can to measure. Over-watering stimulates extra growth, thus increasing fertility requirements, thatch accumulation, and disease pressure. Never fertilize during high summer heat, as burning may occur.

Also, watch your mowing height. The common practice of mowing a lawn short, under the assumption that it will require less frequent cutting, is responsible for much lawn deterioration. If cut too short, there is not enough leaf surface to manufacture necessary foods for balanced growth. I usually leave Tall Fescue at 3–3½ inches and Kentucky Bluegrass at 2–2½, so as not to add any undue stress during summer heat. Keep your mower blade sharp as tearing the grass blade increases water loss and disease. As the temperatures rise, mowing is tougher work, so drink plenty of water and take a break periodically.

Now is the time to check for white grub damage. Look for brown patches of turf that lift effortlessly (the grubs eat the roots). If there are 4–8 grubs per square foot, treat with the proper control (always read and follow the label) toward the end of the month.

Grub worms

August: Now is the time to evaluate your lawn. Look at the ratio of weeds to turf; if the weeds and bare areas are winning, you may need to renovate part or all of your whole yard. Renovation should be done near the end of August or the beginning of September, so you need to get rid of weedy areas now to allow 3–4 weeks before reseeding begins. Let all the hard work you've done be inspiration for next year's lawncare: proper maintenance is always easier than renovation.

PHOTO BY JUSTIN VISNESKY

Now in his fifth season at the Garden, resident Turf Manager Scott Stelling oversees the Garden's 33 acres of lush green grass, currently ranked by lawn equipment manufacturer Briggs & Stratton as one of the top 10 lawns in the country. "Good lawns don't just happen," he notes. "They require a commitment." He currently serves on the board of the Missouri Valley Turfgrass Association.

PHOTO BY MARY ANN KRESSIG

kemper center for home gardening

10 a.m. to 4 p.m. daily. • (314) 577-9440

Plant Doctor Walk-in service, Mon.–Sat., 10 a.m. to noon, and 1–3 p.m.

Horticultural Answer Service Master Gardeners provide personalized answers to your specific gardening questions. 9 a.m. to 12 p.m., Monday through Friday. (314) 577-5143.

HortLine Hundreds of pre-recorded home gardening messages available 24 hours a day. Pick up a brochure that outlines topics and their telephone extension numbers at the Kemper Center. (314)776-5522.

Master Gardener Speakers' Bureau Horticulture experts are available to speak to garden clubs and other groups for a fee. Call (314) 577-9440 between 10 a.m. and 4 p.m. to request a current list of speakers and programs. Programs are presented by Master Gardeners.

Adult Education Programs The Missouri Botanical Garden offers a variety of adult education classes on such topics as gardening, botany, cooking, and nature appreciation. Call (314) 577-9441 to receive a current listing of classes offered.

Neighborhood Greening Program The Urban Gardening Partnership (the Missouri Botanical Garden, University Extension, and Gateway Gardening) offers financial assistance to urban residents to improve their neighborhoods by transforming neglected areas into productive and beautiful green space. Contact Gateway to Gardening at (314) 577-9484 for more information.

From the beginning, Henry Shaw conceived of his Garden as both a place of beauty and a place of learning, a place where the "instruction of garden pupils shall be attended to." His last will and testament of 1889 provides for both the "propagation and cultivation of specimens of plants," but also for the "promotion of science and knowledge." This mission applies not only to the Garden's outreach programs with public schools, but also to the interests of home gardeners and adult learners.

With gardening the number one hobby in the U.S., the Garden inaugurated the William T. Kemper Center for Home Gardening in the early 1990s to assist in the learning of "garden pupils." The William T. Kemper Center for Home Gardening is the largest non-profit gardening information center of its kind in the nation. It provides recreation, education, and resources for Midwestern home gardeners, with many programs developed jointly through partnership with the University Outreach and Extension.

With a central pavilion featuring an abundance of gardening references and over eight acres of display gardens, not to mention the classes and clinics, the Kemper Center bears repeat visits without ever exhausting its vast offerings. In fact, many regular visitors to the Kemper Center continue to be surprised by new (or newly discovered) resources.

July and August are the perfect time to visit the Kemper Center. Most of the beds are going gangbusters and showing off the best of what these plants will look like in your own backyard. Walk through the gardens and discover new plant combinations, plants you didn't know you could grow, and some innovative uses for natives. You'll see many people taking notes for their fall and spring garden plans. After you've walked the display beds, take an air-conditioned break in the pavilion, where you can research where to find, buy, and install the new plants you've fallen in love with.

Here are a few of the most popular, as well as a few of the often overlooked, gardens to be seen in the Kemper Center's 23 demonstration gardens:

Coinco Summer Plant House

The Summer Plant House is a shaded outdoor working area equipped with a bench and tools to handle routine gardening tasks like repotting, mixing soils, and propagating plants. Hands-on demonstrations are held here on select days throughout the growing season.

U.S. Bank City Garden

Gardening can be a challenge for those who have a small space bounded by fences or walls. The City Garden boasts a productive vegetable garden, small flowering and evergreen shrubs, and a selection of shade-tolerant and full-sun vines used to cover and soften vertical walls and create a cozy atmosphere.

Ameren UE Ground Cover Border

Ground cover plants are low-growing, low-maintenance plants that spread out to cover the ground surface completely. In the Ground Cover Border, you will find a selection of moderate to vigorous spreaders ranging in height from less than six inches to several feet.

Joseph F. Ruwitch Garden for All

Gardening tasks can be made easier through the proper arrangement of garden beds, selection of plants, and the use of specially designed tools. In the Garden for All, you will find raised beds accessible from a sitting position, a selection of plants chosen to promote dexterity, and a display of specially designed tools.

Boatmen's Family Vegetable Garden

The Family Vegetable Garden displays a wide assortment of vegetables, fruit, and herb varieties selected as the best for St. Louis. In this garden you will learn about soil preparation, how to grow for maximum production, techniques to extend harvest, and solutions to common problems.

Lois Whiteside Franklin Flower Trial Garden

Every year, hundreds of new annual and perennial varieties are grown and evaluated for their durability, aesthetic appeal, and suitability for the gardening public. The Flower Trial Garden displays side-by-side plantings of new and standard varieties.

Justin A. and Rose J. Naumann Experimental Garden

The Experimental Garden provides opportunities to learn about ways to improve soils, new techniques for increasing yield, methods of pest control, evaluation of plant selections, and other experimental trials.

Spoehrer Children's Garden

The Children's Garden was designed to nurture a child's sense of wonder and curiosity. Children and adults can take a walk through the tapestry hedge and peek through the topiary arborvitae hedge window to see a peacock fountain with water sprays forming its tail feathers.

Lang Family Bird Garden

The Bird Garden displays plants that provide birds with shelter and food, such as dense plantings of deciduous and evergreen shrubs and berry-producing hawthorn and holly trees. A special planting of hummingbird plants such as lobelia, trumpet-vine, and salvia is used to lure these tiny, swift birds.

Lucy and Stanley Lopata Prairie Garden

The Prairie Garden is a small tribute to the plant community that once dominated Missouri's landscape. Take a walk on the path to view a selection of prairie plants, including prairie blazing star, black-eyed Susan, and tickseed. Stand shoulder to shoulder with little bluestem and smooth-leaf aster.

Martha Love Symington Missouri Native Shade Garden

Once a vast prairie, Missouri has been transformed to forests of oak, hickory, and maple, creating a shade canopy under which woodland wildflowers prevail. The Missouri Native Shade Garden recreates this habitat and displays shade-tolerant native plants that can be used in gardens dominated by trees.

Christopher Biraben Butterfly Meadow

The Butterfly Meadow contains plants that supply nectar, pollen, and water to attract butterflies to the garden. Butterflies generally enjoy flat landscapes protected from strong winds. They will be most noticeable in the morning and evening and especially in the late summer and fall.

the plant societies

American Orchid Society
(Mid-America Regional Judging Committee) David Brown, (314) 727-2385

Belleville Area Rose Society
Dennis Nelson, (618) 233-4609
homepages.ezeeweb.com/rosenut

Bonsai Society of Greater St. Louis
Bob Harris, (314) 352-0817, bobharris@accessus.net

Boxwood Society of the Midwest
Mary Clair Wenger, (314) 846-2834

Dahlia Society of Greater St. Louis
Ellis Evans, (314) 843-3767

Federated Garden Clubs of Missouri
Elizabeth Roche, (314) 544-4337

Gardeners of America (Ozark Region)
Russell McClellan, (314) 837-2470

Gateway West Gesneriad Society
Gary Dunlap, (636) 789-3604, patspets@jcn1.com

Greater St. Louis Daffodil Society
Jason Delaney, (314) 577-0234, jason.delaney@mobot.org

Greater St. Louis Daylily Society
Elaine Hogg, (314) 432-4206

Greater St. Louis Iris Society
Jim Morris, (636) 256-3927, morrisje1@aol.com

Henry Shaw Cactus Society
Pat Thomann, (314) 892-1123

Metro East Herb Club
Daphne Sumner, (618) 538-7739

Metropolitan St. Louis African Violet Council
Carolyn Burr, (636) 225-2559

Mid-America Regional Lily Society
Fred Winterowd, (314) 423-5313

Missouri Botanical Garden Daylily Society
Bill Lenz, (314) 487-6588, lobilllenz@juno.com

Missouri Mycological Society
Maxine Stone, (314) 963-0280, VeryMaxine@aol.com

Missouri Native Plant Society
George Yatskievych, (314) 577-9522, george.yatskievych@mobot.org
http://web.missouri.edu/~umo_herb/monps/

Missouri Orchid Society
Ron Taube, (314) 961-0577, taubedove@aol.com

North American Rock Garden Society,
Gateway Chapter
Sandy Evertowski, (314) 837-4841

Orchid Society of Greater St. Louis
Adrian Winheim, (314) 416-4578, alw9612@earthlink.net

Rose Society of Greater St. Louis
Bob Jeffress, (636) 946-7109

St. Louis Carnivorous Plant Society
Deborah Stopsky, sleepdreams@addlebrain.com

St. Louis Evening Herbalists
Linda Burke, (314) 961-4314, cleftstone@aol.com

St. Louis Herb Society
Nancy Kirchhoff, (314) 249-6395, stlherbers@aol.com

St. Louis Horticultural Society
Mindy Keyser, (314) 994-0275, salviawrens@sbcglobal.net

St. Louis Hosta Society
Sandra Copeland, (636) 447-5980, sandi@stlouishosta.com
www.stlouishosta.com

St. Louis Water Garden Society
Joan Woelfel, (636) 394-6342, www.slwgs.org

Webster Groves Herb Society
Nancy Waddell, (636) 464-6085, petaledposes@aol.com

West County Daylily Club
Ms. Chick Buehrig, (314) 389-8261, buehrig31@aol.com

Wild Ones Natural Landscapers,
St. Louis Chapter
Scott Woodbury, (636) 451-3512, scott.woodbury@mobot.org, www.for-wild.org

giraffic park

A wonderful whimsy of welded scrap. Sculptor Donald T. Behrens salvaged sheet metal and old farm equipment to craft the eight delightful animals currently on display throughout the Kemper gardens.

PHOTO BY BETH HAINES

victorian gardens for everyone

Learn More

The Adult Education division of the Garden offers classes to members at a discount, with classes on all kinds of special gardens offered throughout the year. On the website, go to: www.mobot.org/gardeninghelp to view current course offerings.

Botany—the study of plants—was among the most popular of the 19th century sciences, in an era when science developed a fervent popular following. Cheap, healthy, and pious, botany required only a love of nature and a few inexpensive tools for plant collection. Men, women, and children would roam the countryside, contemplating Nature's handiwork, and gathering plant specimens. This interest in plant life flowed naturally into a groundswell of interest in gardening and public gardens.

It was in the early Victorian period that public botanical gardens were first conceived (the first director of the Royal Botanic Gardens—Kew, Sir William Jackson Hooker, was appointed in 1841), and in the high Victorian era twenty years later that Henry Shaw brought the phenomenon to America. The Missouri Botanical Garden opened 1859 and has evolved over the subsequent 140-plus years into a preeminent botanical garden for research, education, and display. But it wasn't until the installation of the Victorian Area in 1997 that the Garden got back in touch with history.

Today, the Victorian Area in the southeastern portion of the Garden includes:

- Shaw's Italianate country home Tower Grove House, built in 1851.
- The St. Louis Herb Society Herb Garden behind the house. It is enclosed in ornamental wrought-iron fencing, including the exquisite Elsie Ford Curby Gazebo.
- Kaeser Memorial Maze—a sunken labyrinth of yew hedges bordered with arborvitae.
- Piper Observatory—a replica of one built by Henry Shaw in Tower Grove Park.
- The original Museum Building, which the library and herbarium quickly outgrew.
- Shaw's red-brick Townhouse, which was rebuilt here after his death.
- The Mausoleum garden—Shaw's final resting place beneath majestic oaks and sassafras.
- Kresko Family Victorian Garden—representing the high Victorian style, from the era when Shaw was planning his garden, and modeled on his original parterre.

PHOTO BY ELLEN FLESCH

Elsie Ford Curby Gazebo, a Victorian-style focal point

"The Kresko Family Victorian Garden is very similar to a garden Shaw installed where the lily pools are now," says Daryl Cimaglia, senior horticulturalist in charge of the area. In the absence of color photography, exact reproduction of Shaw's original is impossible. However Cimaglia has made a careful study of Victorian color theory, and every genus of plant in today's garden derives from original Victorian plant lists. Besides, suggests Cimaglia, a slavish imitation would be, well, un-Victorian.

"Gardening was like fashion in Victorian times," says Cimaglia. "Over the 60 years of Victoria's reign, different styles came into vogue, as scientific expeditions brought back exotic, new species. There was a bigger palette to choose from than ever before, and innovation was a sign of status. The Kresko Family Victorian Garden is inspired by Victorians who sought out new and exciting plants."

The resulting garden is both formal and wild, exuberant and peaceful, and can—with proper planning, work, and maintenance—be duplicated in your own back yard.

Focus on the focus

Read a book or two on Victorian gardening, visit the Garden and ask questions. "Creating a Victorian garden is not so much about the specific plants you use, as the hardscape," says Cimaglia, using industry jargon for the nonplant items in a garden. Don't worry: this does not automatically mean an expensive construction project. A single garden statue or ornament, a pair of inexpensive polystyrene urns, a small piece of ironwork—any of these could serve as the focus of your Victorian theme area. "Collect mementoes from trips," suggests Cimaglia. Middle class tourism was a new industry in the Victorian era, and travelers often brought back seashells or other items to use as garden decorations.

Plan the layout

Formality and geometry count for a lot, so sketch out the shape of your Victorian beds carefully. The classic Victorian bed includes three levels of height: a strong vertical center, a bushy mass at mid-level, and a trailer. As for any garden, species of plants should be selected based on climate, performance, location, etc. The good news is that, according to Cimaglia, a good number of the most common bedding plants in use today were introduced in Victorian times. Check out lists of Victorian plant genera in gardening books and on the Internet. See the sample plan below right for a basic idea.

As for colors, "It's a common misperception that Victorians favored pastels and delicate color combinations," says Cimaglia. "The color wheel was translated from German into English in the 1840s and Victorians were fascinated by the concepts of complementary opposite colors. The middle class was finally getting to have a time of leisure, and the garden became a new opportunity for self-expression." Color combinations were often wild, bright colors—even garish, depending on taste.

Install late fall then maintain and update

Luckily, this is easier than it sounds. Gardens provided the emerging Victorian middle class not only an opportunity for artistic expression and demonstration of botanical knowledge, but also a discreet display of wealth. "At the time, these were not easy gardens to maintain," notes Cimaglia. "Everything—even irrigation—was done by hand and required large amounts of work by servants or laborers. Today, we make up the difference with technology—better irrigation, soil science, and fertilizers, and better equipment, such as motorized hedge trimmers."

All the time you save in basic maintenance can be spent in dreaming up a seasonal rotation. Another classic Victorian technique is the *plunge*. Potted tropical and semitropical plants would be plunged, i.e., planted in their pots, during the summer season for display, then dug up and removed to the greenhouse for winter. Nowadays, you can remove these items to a living room with southern exposure or grow lights.

PHOTO BY JUSTIN VISNESKY

Daryl Cimaglia

Daryl Cimaglia got his start in horticulture working on a truck farm in high school. "I guess you could say I was better with plants than with people at that age," he laughs. Following stints in residential and commercial landscaping and greenhouse production, Cimaglia completed his horticulture degree and "applied and applied and applied" to work at the Garden, landing a position in 1993 in the south end of the Garden where the Victorian Garden is now located. "From the moment they broke ground, I was involved with this area," he says proudly. "I judge how well I'm doing by how many people take pictures." His favorite thing about the job is the challenge of coming up with new ideas to highlight Victorian plant diversity. His home garden is less formal, but definitely Victorian-influenced. "I experiment with new color and plant combinations for next year in my backyard."

PHOTO BY ELIZABETH MCNULTY

Kresko Family Victorian Garden's geometrically patterned beds

basic victorian combos

The classic Victorian bed includes three levels of height: a strong vertical center, a bushy mass at mid-level, and a trailer.

Sample bed: Canna center with bushy Sun coleus and begonias as the border.

Sample urn: Dracena spike with a Caladium mass and then Asparagus fern trailer.

1887

1914

history of juno

1960s

1980s

PHOTOS COURTESY MBG ARCHIVES

Juno: Past and Present

by Andrew Colligan, *MBG Archivist*

Juno is the Roman queen of the goddesses, patron of, among other things, light, birth, and beginnings. So it is only appropriate that she was one of the first statues commissioned by Henry Shaw for his fledgling botanical garden. In 1883, Italian sculptor Carlo Nicoli agreed to create several works, including "Juno," "Victory"—an allegory of the victory of science over ignorance, and the marble busts of classical composers Gounod and Verdi located in nearby Tower Grove Park. Both "Juno" and "Victory" were installed in the Garden in 1887, but while the statue of Victory has been located in the same location enclosed just outside the north end of the mausoleum area, the statue of Juno has been moved to several different locations in the Garden over the years.

The original location of Juno was directly in front of the 1868 Conservatory, which served as the Garden's main greenhouse range during Shaw's lifetime. In this location, the statue served as the central focal point for the "parterre" or sunken garden, and resided in this location until 1914.

After completion of the Palm House in 1914, which served as the new main greenhouse range, Juno was relocated to the rear of Palm House and placed in the center of the Italian Garden, once again the focal point of a formal garden. She remained in this location until the late 1950s when the Palm House was torn down to make way for the Climatron.

After completion of the Climatron, Juno was relegated to a less conspicuous location behind the Temperate House (an original wing of the Palm House). Juno remained in this location until 1988 when she was moved just east of Tower Grove House where the Victorian garden now stands.

With the completion of the Kresko Family Victorian Garden in 1996, Juno once again took her place as the focal point for a Victorian garden much in the same way she did over one hundred years before.

See more of "Juno" and other historic images on the MBG Archives website, *An Illustrated History of the Missouri Botanical Garden*: http:/ridgwaydb.mobot.org/mobot/archives/

facts about juno

Facts about "Juno"
Sculptor: Carlo Nicoli
Material: Marble
Made: 1886
Installed at MBG: 1887

PHOTO BY DIANE WILSON

Dr. Raven thanks the participants at Volunteer Evening.

Volunteer Evening

Over 1,200 volunteers contributed over 97,000 hours to the Garden in 2002—that's the equivalent labor of 47 additional full-time employees! On May 6, the Garden celebrated this remarkably capable volunteer workforce at the annual Volunteer Evening. Despite near-tornado conditions outside, guests were honored and thanked for 10, 20, and 30 years of service, and four unique individuals were singled out for special awards. Sally Dobrunz received the Commitment Award for her consistently superior work at the Library. Steve Linford received the Extra Service Hours Award for his outstanding dedication at the Shaw Nature Reserve. Jean Racowsky (see spotlight) received the Lifetime Achievement Award for her many years of service to the Butterfly House. Claire Meyners received the Special Achievement Award for her work on a special research project for the Shaw Nature Reserve. The St. Louis Herb Society received the Organization Award as a tribute to their outstanding contributions to the Herb Garden renovation. The Garden is deeply grateful to our award winners, and to the whole volunteer corps.

PHOTOS BY DIANE WILSON

Thelma Hollander, MBG Instructor Trainer Rebecca Young, Elaine Baden, and Mindy Keyser. Not pictured Janis E. Henricks.

Hats Off: Volunteer Instructors

Volunteer Instructors use their knowledge of plants and their enthusiasm to teach school groups about photosynthesis, plant adaptation, biomes, and other plant-related topics designed to enhance science learning in local schools. The success of the Garden's Youth Education Program depends upon their dedication and the time they generously give. Each volunteer commits at least one day per week, and the program reaches over 24,000 students each year. This May, four new recruits "graduated" to the ranks of the Volunteer Instructors. Thank you, Volunteer Instructors. We couldn't do it without you!

Are you a teacher with a love of science? Become a Volunteer Instructor at the Garden. Call Jackie Juras at (314) 577-5187 for details.

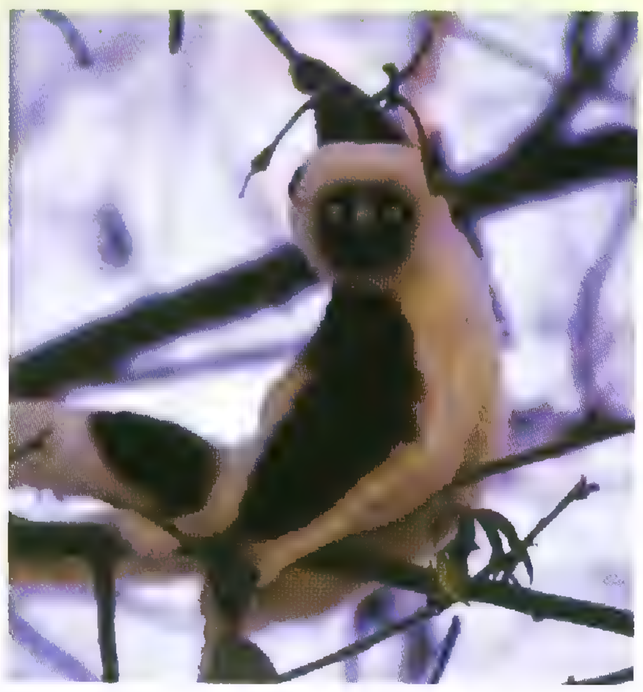
volunteer spotlight

PHOTO COURTESY THE BUTTERFLY HOUSE

Jean Racowsky

Retired high school teacher and native St. Louisan Jean Racowsky has a "thing" for butterflies. "Since I was a child, I've always loved them. When I heard we were getting a butterfly house, I was thrilled!" So thrilled, in fact, that she started volunteering before the facility even existed. While in the planning stages, she became the Butterfly House's first Docent coordinator, helping to train, schedule, and present the first outreach programs. "Jean even trained me on the outreach materials," laughs Joe Norton, Director of the Butterfly House. During the eight years that she has volunteered since, Jean has assisted with nearly everything, from acting as a Guest Services office helper to stuffing native plant seed packets. "Jean is extremely committed to the Butterfly House and is willing to do anything we ask to help out," says Jessica Deering, Guest Services coordinator. "It's worth it everyday, just to see those children's faces light up," adds Racowsky. There's a place for your talents at the Garden; a wide range of volunteer opportunities are available. For more information, call Jackie Juras at (314) 577-5187.

Madagascar



Today, in every country on Earth, species are becoming extinct at an unprecedented rate. Organisms are being lost forever, before we can determine their uses or their role in the balance of nature. Driven by this urgent imperative, Missouri Botanical Garden scientists conduct the most active and geographically widespread botanical research program in the world. Their work forms the base on which the pyramid of plant science stands.

The Taylor Fund for Ecological Research—established by the gift of Jack Taylor, founder of Enterprise Rent-A-Car—allows the Garden to continue pursuit of knowledge of plant diversity in countries all over the world, and to work with these countries to conserve and develop plant resources sustainably before it's too late.

PHOTO BY DANE WILSON

In early May, a visiting Malagasy Deputy (congressperson) met with members of the Madagascar team at the Garden. From left: Dr. James Miller, Malagasy Deputy Gasstsar Rakotondrandria, Dr. Pete Lowry, Dr. Peter Raven, Dr. George Schatz, Dr. Armand Randrianasolo.

It is known in the local language as *tavy*. Researchers believe this traditional method of slash-and-burn agriculture was brought to the island of Madagascar by the earliest human settlers from Indonesia almost 2,000 years ago. Utilizing the *tavy* method, farmers cut down the forest, burn the remains, and plant rice. The fields are then supposed to be left fallow many years to release nutrients, but as human population growth soon outstripped forest regeneration, *tavy* has become a tradition that threatens.

Madagascar is the fourth largest island in the world (after Greenland, New Guinea, and Borneo), larger than California and Oregon combined. About 250 miles off the coast of Mozambique in the Indian Ocean, Madagascar broke off from the African mainland over 165 million years ago, isolating the island and stimulating an evolutionary process. The result is a huge number of endemic species plants and animals found nowhere else in the world. Lemurs (primitive relatives of monkeys, apes, and humans), chameleons, baobab trees, are but a few of the many types of native wildlife.

Madagascar is one of the biologically richest countries on the planet, but it is monetarily one of the world's poorest. With an average income of only $240 per year, about 80 percent of the population depends upon subsistence farming for survival. Slash-and-burn techniques have resulted in massive deforestation, with barely 15 percent of the original forest remaining today; and widespread soil erosion gives rise to Madagascar's nickname, the Great Red Island. There is tremendous pressure on the nation's stunning biodiversity as this historically poor country attempts to reinvent tradition to preserve its future.

The Missouri Botanical Garden has been active on the island for over three decades, pioneering new types of collaborations to help educate and empower Malagasy citizens to conserve their resources, while collecting and recording the unique flora. Madagascar has an estimated 12,000 native plant species, more than 90 percent of which occur nowhere else in the world. Garden botanists and collaborators have collected over 30,000 new specimens. Scientists are assisting the Malagasy government in conservation planning by identifying priority areas for protecting plant biodiversity and threatened species.

From left: Madagascar split off from the African continent over 165 million years ago, resulting in a long evolution of unique wildlife, such as the baobab tree and the lemur.

Malagasy citizens harvesting rice.

A landscape showing the effects of deforestation and land erosion in Madagascar, and the island's "red" earth.

More pictures of the exotic flora and fauna of Madagascar can be found on the Garden's website at http://ridgwaydb.mobot.org/mobot/madagascar.

"Our biggest challenge is slowing poverty-driven deforestation," says Dr. Chris Birkinshaw, the Assistant Curator and Technical Advisor who coordinates the effort on the ground in Madagascar's capital Antananarivo. "We are also striving to pass management for the program to our Malagasy staff."

From the outset, the Garden has consistently provided opportunities for local collaborators to receive extensive training while accompanying botanists in the field. Starting in 1990, the Garden began a novel series of complementary training activities designed to establish a cadre of Malagasy nationals with the practical skills and experience needed to assume responsibility for the study, protection, and rational use of their country's unique biodiversity.

"If we do our job well, not only will our knowledge of the flora increase," says Dr. Peter Lowry, head of the Africa and Madagascar Department, "but botanists will be able to play a substantial role in conservation, and a group of young Malagasy professionals will be able to make a real difference in their country."

The development of the program in Madagascar has also facilitated the establishment of a bioprospecting program in collaboration with the Centre National d'Application des Recherches Pharmaceutiques, Conservation International, and various U.S. partners, including the National Cancer Institute, Virginia Tech, Bristol-Myers Squibb, and Dow Agrosciences. These projects give the Garden an opportunity to add a new dimension to inventory work by participating in a range of screening programs designed to detect useful compounds from Malagasy plants. The bioprospecting programs we have developed in Madagascar are frequently cited as models for equitable sharing of the benefits derived from applied biodiversity research.

"It's a race against time," adds curator George Schatz, "to justify the value of these plants to a relatively cavalier world."

Capital: Antananarivo

Geographic Area: 587,040 sq. mi.

Population: 16.5 million

Nationality: Malagasy

Languages: Malagasy, French

Money: Malagasy franc (about 5,775 MGF per 1 USD)

Politics: Formerly an independent kingdom, Madagascar became a French colony in 1886, but regained its independence in 1960. Marc Ravalomanana has been president since April 2002.

Exports: coffee, vanilla, shellfish, sugar, cotton cloth, chromite, petroleum products

ARTWORK BY ELLEN FIESCH

March–April 2003

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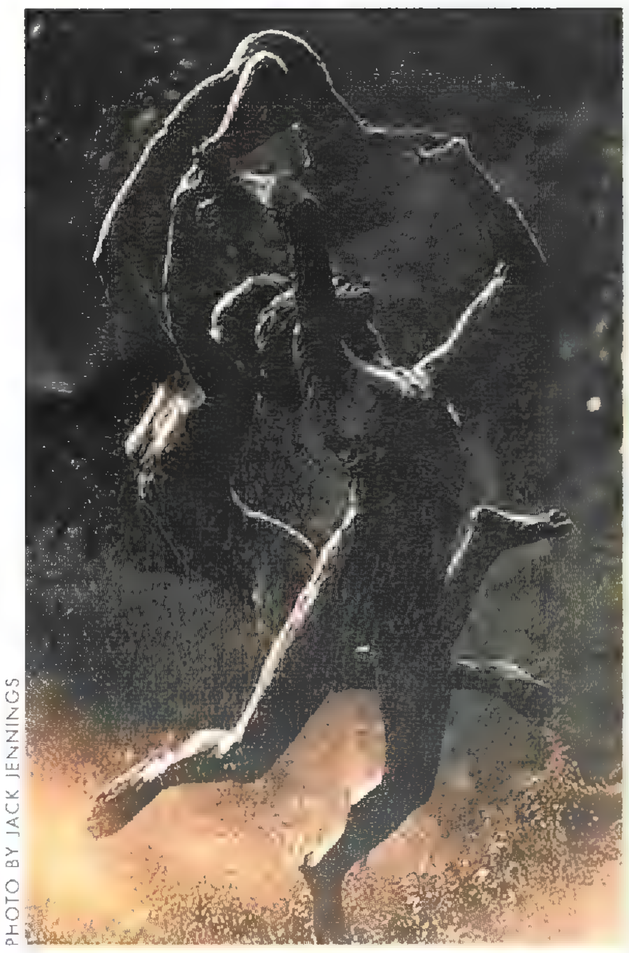

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By leaving a bequest to the Garden, you create a legacy that will benefit others for generations to come. If you have already included the Garden in your estate plans, we hope that you will share this information with us. We would like to express our gratitude and welcome you into the Heritage Society. Of course, your wishes for anonymity are respected.

Please call Judi Schraer, planned giving officer, at (314) 577-9455 for further information and a complimentary brochure.

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the shop at the Garden

4344 Shaw Boulevard
(314) 577-5137
Open daily 9 a.m. to 5:30 p.m.
All proceeds benefit the Garden.

The exotic beauty of Mexico is embodied in the historic tradition of Talavera pottery. These ceramics are hand-painted in the region of Puebla where they have been created by artisans for more than 400 years. A dramatic piece of Talavera design will bring color and excitement to your home or summer patio. Visit the Garden Gate Shop to see the complete line.

Special offers and events!

Fri.–Sat., July 4-5
Silver Cat jewelry trunk show. 10:30 a.m. to 5 p.m.

Sat., July 12
Dressed in authentic Mayan clothing, author Rachel Crandell will read excerpts from her book *Hands of the Maya—Villagers at Work and Play.* For young readers. 11 a.m.

Sat., July 19
Barbara Perry Lawton, author of several popular works *(Seasonal Guide to the Natural Year, Magic of Irises, Mints: A Family of Herbs and Ornamentals)*, reads and signs books. 1 p.m.

Mike Miller, Host of the KMOX Garden Hotline, signs copies of his book *Missouri Gardener's Guide*. 3 p.m.

Thurs., July 24
In honor of Henry Shaw's birthday, members receive 20% off all merchandise in the shop.

Sat., July 26
Painting demonstration by Leslie Faust. 1–3 p.m.

Sun., July 27
Steve Henry, author of *60 Hikes within 60 Miles of St. Louis*, reads and signs books. Noon.

Tom Terrific, butterfly enthusiast and author of *Butterfly Gardening: How to Bring Butterflies and Flowers into Your Life*, reads and signs books. 2 p.m.

Fri., Aug. 8
Wine and food tasting at the shop. Noon to 3 p.m.

Fri. to Sun., Aug. 8–10
Members receive 20% off all wind chimes.

Sat., Aug. 9
StoryTime. *A Place to Grow and So Slow*. 11 a.m.

Fri. to Sun., Aug. 15–17
Food tasting. 1–4 p.m. And Garden members receive 20% off all food items.

Fri. to Sun., Aug. 22–24
Members receive 20% off all furniture.

The Gate Shop features local artists in the shop whenever possible. Whether pottery or paintings, the work of these artists will add a unique touch to your home and garden.

June 14–July 13: Local high school art teacher Annie Scheumbauer is the featured artist. Her work focuses on the beauty of the Garden.

July 14–Aug. 11: Works by Leslie Faust will be featured. On Saturday, July 26 she will demonstrate the process used to produce "Healthy Planet News."

Aug. 12–Sep. 15: Environmental architect and photographer, Tom Tyler's photographs of the Japanese Garden will be for sale.

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tributes continued

March–April 2003

Marian "Sis" Soderblom
Mr. Chuck Burkett

Leland Springer
Jacquelyn M. Dames

Albert F. Steinman
Mr. and Mrs. H. Ivis Johnston
Dr. and Mrs. Antonio I. Longrais

Thelma Stout
Ms. Doris M. Bryant

Donald Thompson
Miss Marian Reisch

Andres Tobar
His Family
Ms. Imarie Zambrana
Kris Zambrana
Luis Zambrana

John Tobias
Jim and Rosalie Cooper

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Mr. and Mrs. Gerry Grossman

Dennis Wilhelmi
Mr. and Mrs. Edmund Blum

Father of Mary Williams
Mr. and Mrs. Don Dintelman
Ms. Laura M. Engelage

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members' entry court

Bricks donated to the Members' Entry Court at the William T. Kemper Center for Home Gardening as of May 31, 2003.

A. Ruth Aulbach / Curtis L. Aulbach
Linda and David Haislar
Ruth and David Harmon
Faye and Mike Kidd

Clair L. Bourgeois
Robbie L. Bourgeois

Betty J. Harmon
Friends and Family of Betty Harmon

Emma Sally Behm
Mr. and Mrs. Brad Carson
Mr. and Mrs. Glenn Coleman
Mr. and Mrs. Nelson Gougeon

Mike & Pat Bolanovich
MBG Daylily Society
Chick Buehrig
Jason Delaney
Bill Lenz
Marty Meagher
Lois Raley
Carrol Wrather

Alice M. Bradford
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Joyce & Arthur Clyne & Family
Joyce Clyne

Doris Dehaven
Chuck Donnelly
Karin Moody
Shawna Shearburn

Earl & Elvira Graul
Steve and Diane Smith

Mary Clare LoPiccolo Johnson
Mary Favazza
Elizabeth Gilpin
Cathy Sullivan
Margaret Sullivan

Christine Lossing
Kay Lamont

Jen & Tim McMahon
Jennifer and Timothy McMahon

Edith Bradbury Patterson
Thomas O. Patterson

Colleen Rose Ritty
Christina Ferrone
Fiona Gallahue
Kirsten Kienstra
Vik Patel
Tom and Kathy Sommers

Larry, Julie, & Ryan Rosenberg
Mr. and Mrs. William J. Katz

Terry, Vicki, & Denise
Vicki Downer

Arthur L. Winter, Jr
The Thursday Nighters

Visiting musical artists from Japan performing at the Japanese Festival.

Don't miss this year's Japanese Festival!

see page 9

Contact information

Events hotline:	(314) 577-9400
Toll free 1-800-642-8842	
Garden Café:	(314) 577-5196
Daily, 9 a.m. to 5 p.m. (Wed. & Sat. from 7 a.m.)	
Garden Gate Shop:	(314) 577-5137
Daily, 9 a.m. to 5:30 p.m.	
Horticulture Answer Service:	(314) 577-5143
Weekdays, 9 a.m. to noon	
Main switch	(314) 577-5100
Butterfly House:	(636) 530-0076
Children's Education:	(314) 577-5140
Communications:	(314) 577-0254
Composting Hotline:	(314) 577-9555
Continuing Education:	(314) 577-9441
Corporate Partners:	(314) 577-1513
Development:	(314) 577-5120
EarthWays Home:	(314) 577-0220
Facility Rental:	(314) 577-0200
Group Tours:	(314) 577-5140
Henry Shaw Society:	(314) 577-0858
Library:	(314) 577-5155
Membership:	(314) 577-5118
Planned Gifts:	(314) 577-9455
Senior Programs:	(314) 577-9506
Shaw Nature Reserve:	(636) 451-3512
Tribute Gifts:	(314) 577-0291
Volunteer Services:	(314) 577-5187

Hours
The Garden is open every day except Christmas, 9 a.m. to 5 p.m. (and Wednesday evenings in summer 2003). Parking is free.

Admission
- Free for members
- General admission is $7
  $3 for St. Louis City/County residents.
- Senior admission (65+) is $5
  $1.50 for St. Louis City/County residents.
- Children age 12 and under—free.
- Admission free to St. Louis City/County residents until noon every Wednesday and Saturday throughout the year, (except Japanese Festival and Best of Missouri Market).
- Special events may require an additional fee.

Editor: Elizabeth McNulty
Designer: Ellen Flesch
Cover photo: Jack Jennings

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Missouri Botanical Garden

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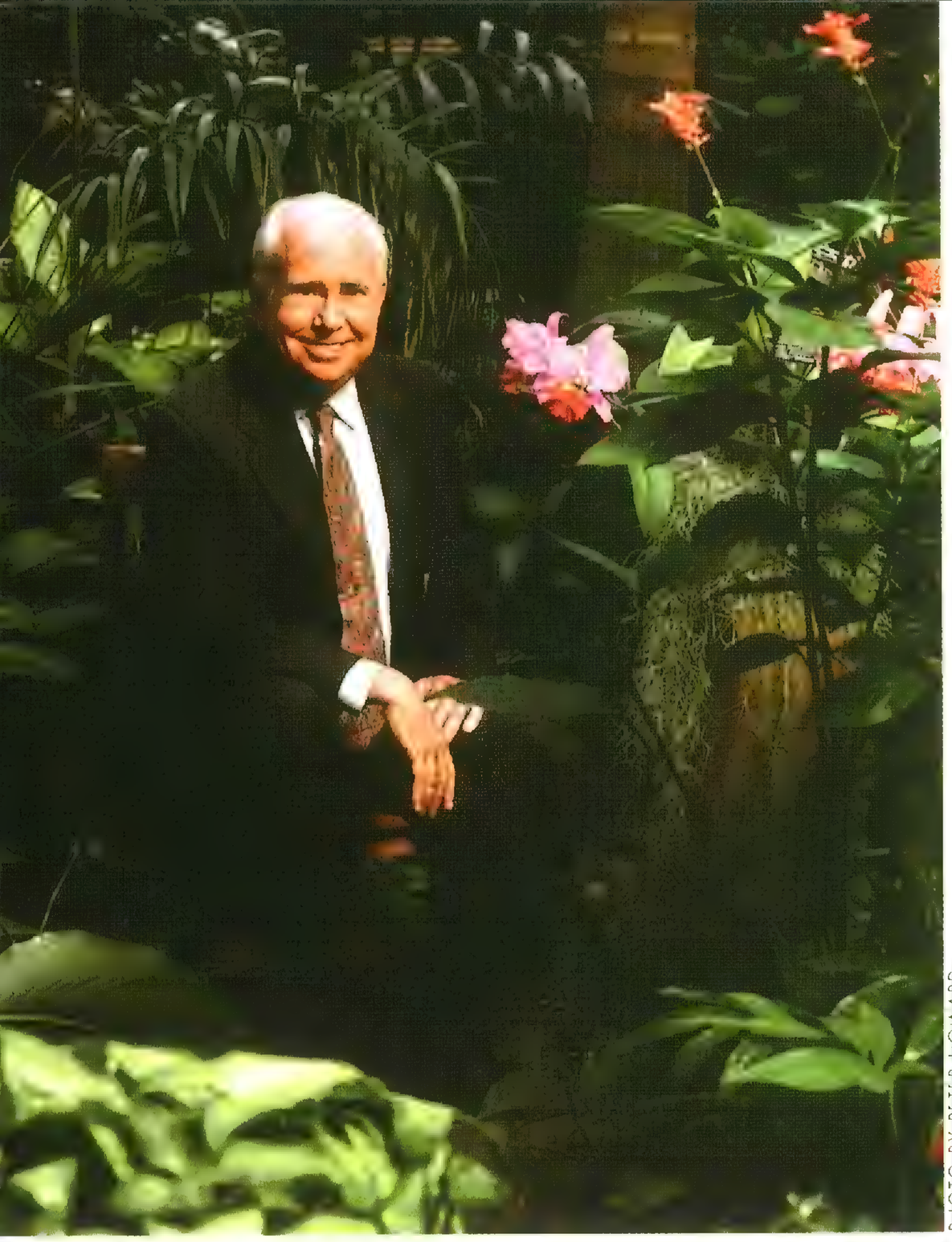

PHOTO BY PETER HOWARD

To discover and share knowledge about plants and their environment, in order to preserve and enrich life.

–mission of the Missouri Botanical Garden

from the director...

Entering the Garden, stepping out to Spoehrer Plaza and its magnificent fountain, walking along the path to the lily ponds, everything is in its place, a garden of natural delight. We hope that's how you, our visitors and especially our members, find the Garden and our other campuses when you visit. Nature endows our Garden with a spectacular beauty, but nature is not in charge of the upkeep.

When we prepared the long-range plan for the Garden in 1999, we asked a firm that specializes in analyzing the state of infrastructure of colleges and universities across the country to take a careful look at our own. The condition of the Garden's infrastructure was deemed average, but more heavily used than most of the other clients analyzed: over 700,000 persons walk our paths and enter our buildings each year.

As we date to 1859 and are proud of our historic past, we have spent considerable effort preserving the old rather than replacing it with the new. We are mindful of preserving our wonderful connection with Henry Shaw's time and his vision of what the Garden should be. For example, today, as you can see, we are renovating the Shoenberg Administration building to be as it was when one section was Shaw's townhouse at Seventh and Locust before other sections were added at the beginning of the 20th century. We are currently tuck-pointing the old brickwork and painting the window trim in the original dark green.

Many of our wooden structures must be repainted, paths repaved, pipes refitted, boilers replaced, and greenhouses modernized. Our facilities, once constructed for fewer than 100,000 visitors annually, must be enhanced to accommodate our many visitors.

We will be seeking your help to update the Garden to ensure that the legacy Henry Shaw and nature have given us is sustained for future generations. I know we can depend on you to join all of us at the Garden as stewards of our legacy. I am very grateful for the support many of you have already provided, and I am personally touched by the understanding and commitment of our trustees and members.

Peter H. Raven

Peter H. Raven, *Director*

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Missouri Botanical Garden

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GARDEN LIBRARY

editor's note...

Fall is upon us, the season of fun and festivities at all the Garden's family of attractions. The Sophia M. Sachs Butterfly House features Fall Fest in conjunction with Faust Park's Folk Fest (Sep. 27–28), a weekend of old-time activities and demonstrations. For the second year, Harvest Festival takes the stage at the Shaw Nature Reserve in October, with local brew, food, hayrides, music, and more. Here at the Garden, no sooner have the taiko drums of the Japanese Festival faded, than the 12th annual Best of Missouri Market kicks into high gear (Oct. 4–5) with over 100 of our region's best purveyors of traditional arts and crafts and foodstuffs.

Japanese Festival and Best of Missouri bring well over 50,000 people into the Garden in just five days. That's about 10,000 people a day, walking on paths, eating food and discarding trash in bins, sitting on benches, using the restrooms and drinking fountains. A casual visitor would never know, thanks to the valiant efforts of the Garden's General Services personnel, who clean sometimes into the early morning hours to make sure the Garden is every bit as enjoyable the following day for the next round of visitors. But that level of usage adds up to serious annual wear and tear, and thus the infrastructure component of the Garden's capital campaign.

So this fall, when you visit to see the mums (or if you're like Chip, the "not-mums"), when you enjoy the many fabulous festivals, discover the paw paw trees, and walk through the Japanese Garden in quiet contemplation, remember that the Garden wouldn't be able to do it without you, our members and supporters.

Elizabeth McNulty, editor
elizabeth.mcnulty@mobot.org

what's inside?

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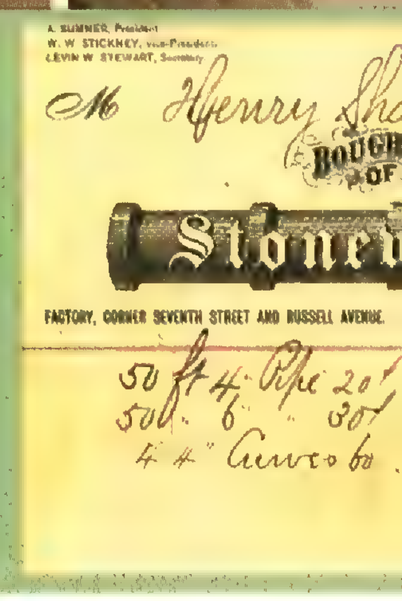
"The winds blew and beat upon that house, and it fell not: for it was founded upon a rock."

Stewards of the Earth

the Campaign for the Missouri Botanical Garden



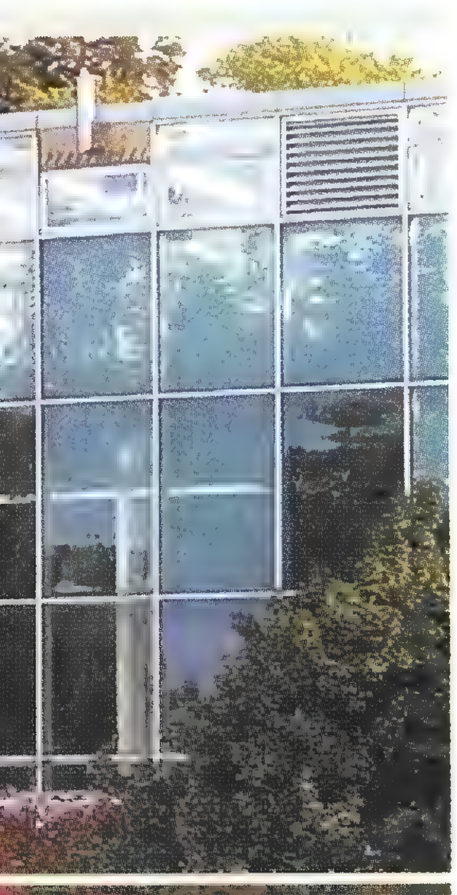
From top to bottom: workers use environmentally friendly products and high-pressure water to gently clean the brick and stonework on the Shoenberg Administration Building (1849, addition 1909).

An original bill of sale of sewer pipes to Henry Shaw in 1881 during construction of the Linnean House conservatory.

In 1857, Shaw noted the completion of two of the Garden's perimeter walls. "The stone wall on the west side, and the brick wall coped with stone on the north side are finished at a cost of $8,000." Today these walls are in need of tuck-pointing and repair. Some other recent infrastructure improvements include: replacement of the heating and cooling systems in the Lehmann Building with more energy-efficient models; installation of a fall restraint system on the Shoenberg Temperate House; replacement of the roof on support complex buildings.

PHOTOS BY BETH HAINES

COURTESY MBG ARCHIVES



PHOTOS BY RAMON CUSI

PHOTO BY JOSEPH PHILLIPS

On May 7, the Missouri Botanical Garden announced a $71 million drive to strengthen our critical role in establishing St. Louis as a world leader in the plant sciences and greatly enhance biodiversity and conservation around the globe. The campaign, which also targets support for the 79-acre St. Louis campus and the Shaw Nature Reserve in Gray Summit, already has raised in excess of $58 million and seeks an additional $13 million in private gifts by 2005. The funds will support Garden research, education, and the facilities required to enhance interpretation and display.

Henry Shaw first conceived the idea of a botanical garden on his property southwest of St. Louis after a trip to the Royal Botanic Garden at Kew, in England, and a visit to the Duke of Devonshire's famed garden estate, Chatsworth, in 1851. From the start, Shaw was concerned with quality, even sometimes at the expense of quantity. "I intend to have everything substantial and elegant, but on a small scale." Shaw's Will makes clear his intention that the garden should be "for the public benefit for all time" and he made sure his structures would last. He built slowly and steadily over decades. "I am vigorously at work on the building of the [Garden]—everything is being constructed in a durable manner," he wrote.

A businessman who made his fortune importing hardware and cutlery from his native Sheffield, Shaw kept detailed accounts of construction on his property, much of which is preserved today in the Garden's archives. Thus, we know that during the building of Tower Grove House in 1949, Shaw paid 85 separate bills for stone, lumber, bricks, iron, copper, cement, and hardware; wages for a variety of work—bricklaying, masonry, carpentry, hauling, glazing, fencing, excavating, taking down and rebuilding two houses. In 1850, ironworkers and plasterers joined the force.

"It's not much different today," laughs Paul Brockmann, Director of General Services in charge of all Garden construction, as well as repair and upkeep. "It takes an army of hard-working employees and contractors to keep the Garden in top shape for our visitors."

It also takes significant financial investment. In late 1998, the Garden commissioned a formal "Facility Condition Analysis" by a company who specializes in these studies for high-traffic venues such as university campuses. The findings were impressive—the historic nature of the Garden's 143-year campus, combined with annual wear and tear of over 700,000 visitors, resulted in a suggested application of $31 million in improvements, preservation and updates, and improved efficiency over the next 10 years.

The Stewards of the Earth capital campaign seeks to raise $16.5 million for infrastructure preservation and improvement. Past generations have preserved and enhanced Henry Shaw's legacy; now we are stewards of that legacy for generations to come.

Case study: Shoenberg Administration Building

What is today known as the Shoenberg Administration Building is actually a private residence with an enormous addition and an interesting story. When Henry Shaw, originally from Sheffield, England, sought an architect to design both his home and country house in 1849, he settled on a fellow Englishman, George I. Barnett. Born in Nottingham, trained by Sir Thomas Hine, Barnett became, after immigrating to St. Louis in 1839, one of the city's foremost architects, and a life-long friend of Shaw.

For Shaw's residence downtown at Seventh and Locust, Barnett designed a graceful red-brick townhouse containing 17 rooms and two kitchens. Shaw admired the house so much that he left provisions for it in his Will. After his death in 1889, the building was taken down brick by brick, numbered (all 308,273 of them), and reassembled, complete with marble fireplaces and imported English floor tiles, on Garden grounds for use as an administrative building. At the turn of the century, those offices were already out of space, and the southern extension was added in 1909. Today, the Shoenberg Administration Building houses the Controller's Office and offices of Development, Membership, Human Resources, and Information Technology.

Pardon our mess… recent visitors to the Kaeser Maze in the Victorian Area may have noticed several large pieces of machinery and crews of workers around the Shoenberg Administration Building. The Garden's 1998 Facility Condition Analysis study found that the original brick and stonework was in disrepair. Necessary exterior restoration on this historic structure began in spring 2003.

Using environmentally friendly cleaners, workers are restoring the original appearance of all brickwork, finishing the job with period-appropriate lime mortar. The original hand-chiseled stone of the foundation is being repointed with traditional joints from the period of the building. Sandstone corner stones are being repaired and/or replaced. The original design of the ornamental terra-cotta molding over windows and doors has been cast in order to replace missing pieces. Finally, from old photos and paint chips, Garden workers have been able to determine the original color of the woodwork. When restoration is complete, the trim will be Shaw's chosen color—a rich, dark green.

PHOTO BY TRENT FOLTZ

You can help!

"This drive provides a unique opportunity to participate in the future of the Garden," says Director of Development Patty Arnold. For more information on how you can help, please contact her office at (314) 577-5120.

japanese festival

PHOTO BY JERRY NAUNHEIM (MOSTLY) HARMLESS THEATRE COMPANY

In addition to all your familiar favorites like the Candy Man, taiko drums, and the dashi wagon, don't miss these new additions to Japanese Festival 2003:

Anime Screenings

Anime (pronounced AH-nee-may) is Japanese cartoon animation distinguished by stylized, doe-eyed characters and frenetic action. Examples include Speed Racer and Pokemon. Screening of two films for adult audiences: Saturday at 7 and 9 p.m. Anime for families: Sunday at 5 p.m. Shoenberg Auditorium. Sponsored by Star Clipper Comics.

Dolls of Japan Only seen in four U.S. cities, this exclusive exhibit features fine art dolls that reflect the customs and regions of Japan. The dolls' clothing and accessories showcase traditional Japanese decorative arts, such as textiles and metalwork. On view all three days in the Beaumont Room, Ridgway Center. Sponsored by The Japan Foundation.

Noh Drama Noh is a classical Japanese performance art combining elements of dance, drama, music, and poetry. Based in the cities of Tokyo, Osaka, and Kyoto, it is performed throughout Japan by artists who pass down the art among family. Performance Sunday at 3:30 p.m. Shoenberg Auditorium. Sponsored by the (Mostly) Harmless Theatre Company.

Japanese Festival

Labor Day Weekend
Aug. 30, 31, and Sep. 1
10 a.m. to 10 p.m., Sat. and Sun.
10 a.m. to 5 p.m., Mon.

Admission:
$10 adults ($7 seniors 65+)
Members: $3
Free to children 12 and under

as the leaves turn

PHOTO BY JAMES KUNNOS

Why drive hundreds of miles to see glorious fall colors, when a spectacular show of fiery red, awesome orange, and blazing gold is as near as the Missouri Botanical Garden and Tower Grove Park? This fall, the Garden and the Park co-host "As the Leaves Turn," a four-week celebration heralding the peak of autumn hues among a variety of trees at both National Historic Landmarks. A free, self-guided walking tour map will describe 31 trees of historical and botanical significance at the Garden and include a driving tour of the 289-acre Victorian walking park past 11 colorful groves. Maps will be available from the Garden's ticket counter and the Tower Grove Park office from Sunday, October 19 through Friday, November 14.

"Our founder, Henry Shaw, loved trees, and there is no better way to share the legacy of trees he left for all of us than to celebrate them at their most colorful season," says Garden director Peter Raven.

In addition to self-guided fall foliage tours, special events are scheduled each weekend at the Garden, including:

Saturday, October 18
Latin American Festival celebrates Bolivian culture with authentic foods, arts and crafts, music and dance from 10 a.m. to 4 p.m.

October 25–26
Continuing the Latin theme, flamenco music and dancers spice up a "Taste of Autumn" food fair on Spoehrer Plaza.

November 1–2
Wizard Weekend returns with magic, potion-making, flying owls and more. Young guests are encouraged to wear their Halloween costumes and join in the fun inspired by a famous bespectacled British boy wizard.

November 8–9
Musical entertainment and the "Taste of Autumn" return to Spoehrer Plaza.

As the Leaves Turn

Sat., Oct. 18 through Fri., Nov. 14
10 a.m. to 5 p.m.

Admission:
Free with regular Garden admission

best of missouri market

Best of Missouri is better than ever with over 30 great new vendors. From familiar favorites to cool new stuff you can't find anywhere else, the Best of Missouri Market provides fresh food, family fun, and abundant early holiday shopping. Bring your friends and family for a day's dining and adventure, as you discover the best arts and crafts and foodstuffs the region has to offer.

Access

Enter at Spink Pavilion on Tower Grove Avenue or at the main entrance off Shaw Boulevard. Additional parking will be available in Tower Grove Park and a continuous shuttle will run to both entrances.

Just for members...

On opening day, members enjoy early bird shopping privileges and will be admitted to the Market at 7 a.m., two hours before non-members. Get first crack at the freshest items before the crowds descend. Membership has its privileges...Early bird refreshments courtesy of Ronnoco Coffee, Coca-Cola, and Great Harvest Bread.

Homegrown Tunes

Enjoy the best of local family favorites on Spoehrer Plaza.

The Gordons (spiritual country bluegrass), Sat. and Sun., 11:30 a.m. to 1:30 p.m.

Raven Moon (bluegrass and folk), Saturday and Sunday, 2–4 p.m.

Cookout!

Straub's Markets present cooking demos on Saturday at 11 a.m. and 1 p.m., with a drawing for a gift basket

Garden Gate Shop hosts food tastings and painting demos both days from 11 a.m. to 3 p.m.

Kids' Corner

The Kids' Corner features a variety of games and activities. Kids can decorate a pumpkin, milk a cow, and pet other barnyard animals. It's a whale of a good time: see the Seaworld Shamu® car.
Face painting both days:
Saturday, (11 a.m. to 1 p.m.) and Sunday (noon to 2 p.m).

The 12th annual Best of Missouri Market is sponsored by Coca-Cola, Commerce Bank, Edward Jones, Equal Sweetener, and KMOX. Special thanks to the Girl Scout Council of Greater St. Louis, Lord and Taylor, and Sachs Electric.

PHOTO BY ANN WILSON

Traditional arts and crafts, such as basket making, feature prominently at the Best of Missouri Market, October 4 and 5.

12th Annual
Best of Missouri Market
Sat. and Sun., Oct. 4 and 5
9 a.m to 5 p.m.,
(7 a.m. Saturday for members only)

Admission:
$7 adults ($5 seniors, 65+),
Members: $2
Children 12 and under are free

PHOTO BY JUSTIN VISNESKY

Strollerobics at the Garden

The California fitness craze "Strollerobics" is coming to the Garden this fall! Designed for moms, dads, or grandparents with children in strollers, this workout is a great opportunity to spend time outdoors, socialize with other parents, and get in shape—all without the need for a babysitter.

"The program incorporates a brisk walking pace and different stationary exercises at the Garden's more intriguing and child-friendly areas along the one-and-a-half mile trail," explains Amy Jenkins, Strollerobics instructor, of New Lady Fitness. "While the parents are getting in shape, kids can learn and play in the new and exciting environment. It should be fun for both adults and children."

Participants can sign up for Monday, Thursday, or Sunday morning sessions and need to bring their own stroller. Classes take place outside from 9:30 to 10:30 a.m., beginning September 4. The cost for each eight-session course is $45, but Garden members get a $5 discount. Class size is limited, so don't miss this great opportunity to get in shape and bond with your child or grandchild. Call (314) 577-0254.

PHOTO BY JACK JENNINGS

just for members...

Reflections of Color and Light

Water gardening is a hot contemporary trend in home gardening, but did you know that the three reflecting pools in front of the Climatron were originally built in 1913? Jon Sweeney, MBG Horticulturist will share his vast knowledge of water gardening, focusing on our historic collection of over 60 tropical water lily hybrids. After the slide presentation, visit with Jon at the pools in front of the Climatron, where these dramatic plants will be at peak bloom (late August/early September).

Members' Day
Water Lilies
Wed., Sep. 10, 11 a.m.
Shoenberg Auditorium

A Special Bonus...
Celebrate 25 years of changing seasons at the Garden with photographer Jack Jennings, when he signs copies of his new coffee-table book *Seasons* for members only. Jack is the talented photographer responsible for the beautiful MBG calendar every year. Receive an additional 10% discount on Jack's book and his 2004 wall calendar. Don't miss the Jack Jennings photography exhibit on display in Monsanto Hall.

Jack Jennings signs Seasons
Wed., Sep. 10, noon to 3 p.m.
Garden Gate Shop

Fall Color Tour

You don't need to roam far in search of autumnal glory, when the Garden is packed with spectacular fall color. Chip Tynan, manager of the Garden's Horticulture Answer Service, introduces the phenomenon of fall color with a slide show and Q-and-A session. Take a self-guided tour with the Garden's new tree map; Chip and Garden Docents will be on-hand to point you in the right direction. Bring your camera, linger over lunch on the Garden Café patio, take a free tram ride, find the perfect tree book in the Garden Gate Shop, and enjoy the "best season in St. Louis."

Members' Day
Fall Color Tour
Wed., Oct. 29, 11 a.m.
Shoenberg Auditorium

Guest Lecturer

Dr. Norman Myers is a Fellow at Oxford University and has acted as policy advisor to the White House, U.S. Departments of State and Defense, NASA, and the United Nations. He is visiting the Garden and will lecture on "Mass Extinction of Species: Why We Should Care, What We Can Do About It." Focusing on 25 "biodiversity hotspots" that contain the last remaining habitats of over two-fifths of all plant species and one-third of all animal species, Dr. Myers will give his assessment of strategies to save these species. Join us to hear about this important topic.

Dr. Norman Myers on Mass Extinction
Mon., Oct. 27, 1 p.m.
Shoenberg Auditorium

members-only sneak preview

Get an exciting sneak peek when members are invited to tour the new Commerce Bank Education Center at the corner of Shaw and Kingshighway. This 58,000 square-foot building will house state-of-the art facilities designed to create experimental learning sites with active, hands-on materials. Visit the science and computer labs, classrooms, and teacher resource rooms. As regular readers of the *Bulletin* know, the Garden is actively participating in math and science curriculum development in area schools.
See the new building that will launch this program into the future. Mark your calendar now; this is the only notice you will receive regarding the open house. Please enter the parking lot from Shaw Boulevard.

Commerce Bank Education Center Open House
Fri., Oct. 17, 3 to 6 p.m.
Sat., Oct. 18, 10 a.m. to 1 p.m.
Members Only

membership benefits

Free admission to the Garden, including the Garden Café, Shaw Nature Reserve, and EarthWays Home for two adults and all children under age 18 for one year. Discounts on admission to Garden public events.

Free publications including the *Bulletin*, 6 issues a year filled with information and activities at the Garden, Shaw Nature Reserve, and Sophia M. Sachs Butterfly House, plus home horticulture advice from the experts at the Kemper Center for Home Gardening.

Flower show parties Previews of the annual holiday flower and orchid shows.

Monthly members' days Special programs presented exclusively for Garden members and their guests feature free tram rides, 10% off in the Garden Café, and special discounts in the Garden Gate Shop.

Discounts Members receive 10% off all purchases in the Garden Gate Shop, with annual spring, fall, and holiday sales of 20% off, plus special rates on selected educational courses.

Members' travel Special trips explore public and private gardens around the world.

Reciprocal admission to over 150 selected botanical gardens around the country.

Discounted subscription rate for *St. Louis Homes & Lifestyles.*

development

PHOTO BY DIANE WILSON

Finding his brick at the Brick Donor Party 2002.

Brick by Brick

At the Garden's annual brick donor reception, we celebrate the contribution of all donors who have given tribute bricks in the Members' Entry Court at the Kemper Center in the past year. Music and light refreshments will be part of this evening. Don't be left out: order your brick today. Please note bricks ordered after September 1 may not be installed by September 29, but all brick donors will be invited to the event. All brick donations support the Missouri Botanical Garden.

Engraved clay bricks ($300)
Bronze signature bricks ($1,000)

Payments may be made by cash, check, or MasterCard/Visa. Order forms are available at the Membership Services Desk in the Ridgway Center, the Kemper Center for Home Gardening, or on the website at www.mobot.org. For more information, call (314) 577-0874, or email: kathleen.kellerstrass@mobot.org.

Brick Donor Reception
Mon., Sep. 29
5 to 7 p.m.
Members' Entry Court
Kemper Center for Home Gardening

PHOTO BY DIANE WILSON

Mr. and Mrs. C Hugh Nelson and Mr. and Mrs. Gene Beare enjoying dinner at the 2002 Director's Associate Evening.

Evening at the Garden

Plans are underway for the annual dinner to honor Director's Associates and Heritage Society members of the Garden on Wednesday, October 8. Guests enjoy cocktails around the fountain on Spoehrer Plaza and dinner under the vaulted atrium of Monsanto Hall.

Director's Associates support Garden programs with an annual membership gift of $500. Heritage Society members have included the Garden in their estate plan through a bequest or other planned gift arrangement. Both of these groups provide vital support to help carry the Garden's mission into the future.

To join this special group and receive your invitation to a very lovely evening, call Judi Schraer, Major and Planned Giving Officer, at (314) 577-9455.

The Corporate Partners program is designed to strengthen the relationship between the Missouri Botanical Garden and the corporate community in the greater metropolitan region. Garden Trustee and committee chair Ed Higgins invites you to consider the benefits of Corporate Partner membership. For information, please call Jamie at (314) 577-9513 or email jamie.cox-robertson@mobot.org.

We are pleased to recognize corporations who have recently joined, renewed, or upgraded their Corporate Partner membership.

Underwriter Level
($5,000 to $9,999)
Graybar Foundation

Supporter Level
($1,000 to $4,999)
Charles E. Jarrell Contracting Company, Inc.
The DESCO Group
H.B.D. Contracting, Inc.
Laclede Gas Company
Stone Carlie & Company, L.L.C.

celebrating

"If you would have told me 25 years ago when I started photographing the Garden that I'd still be here today, I'd have said not a chance," laughs photographer Jack Jennings, creator of the Garden's beloved annual wall calendar and, this year, of his new book *Seasons*.

Somehow weekends turned into months, and months into years for Jack as he spent more time over the last two and a half decades at the spot he deems "one of the most beautiful places on Earth."

A native St. Louisan, Jennings returned to the city in 1978 after 11 years in New York working for McDonnell Douglas. There was a Monet exhibit at the St. Louis Art Museum that summer, and amateur nature photographer Jennings decided to see if he could re-create Monet's shimmering water lilies on film.

"You go to the Garden to look at one thing, and all of a sudden, you're looking at another flower, another sculpture, another garden. It started with the water lilies, but then quickly progressed..."

Jennings thought he'd hang around until the weather turned bad—only he never noticed when it did. It got cold and rainy and then snowed, but through it all, he was captivated by the changing views, the landscapes that emerged only in mist, the unique shots of frost on a windowpane or snow on a branch. "Then suddenly, it's spring again—and there are the tulips!"

In 1981, the Garden hosted an exhibit of Jack's work. The prints on display were organized by season, and very naturally someone suggested doing a calendar.

"The first one we did was in 1982 and it was smaller than it is now. Then in 1984, for the Garden's 125th anniversary, we decided to make a statement, to make the calendar bigger than before, and they've been the same ever since."

This year the annual Jack Jennings wall calendar is joined by a new item: his coffee-table book *Seasons*, published in conjunction with his exhibition "Seasons" on display in the Ridgway Center.

Jennings signs copies of his book and calendar at the Garden Gate Shop on Members' Day, Wed., September 10 from noon to 3 p.m., then again on September 13 and 14 from 1 to 3 p.m.

"I hope that anyone who sees the book will want to come to the Garden. It's one of the most beautiful places on Earth and it's right here in St. Louis."

Above: Jack Jennings' 2004 Missouri Botanical Garden wall calendar and new coffee-table book are available in the Garden Gate Shop.

Right: Jack Jennings captures the glory of spring 2003 in the Heckman Bulb Garden.

PHOTO BY NANCY DEBETTENCOURT

PHOTO COURTESY SAUCE MAGAZINE

Established by the Missouri Botanical Garden in 1925, the Shaw Nature Reserve is in Gray Summit, MO, 35 miles west of St. Louis on I–44 (Gray Summit exit 253). In addition to the Whitmire Wildflower Garden, the 2,400-acre reserve is also home to the restored Bascom House (1879) and 14 miles of hiking trails. Grounds are open daily 7 a.m. to one-half hour past sunset. For information, call (636) 451-3512.

We had such a good time at last year's day-long event of local vittles, brew, and tunes that we just had to do it all over again. Schlafly Beer and *Sauce Magazine* have teamed up with the Garden once again to offer the second annual Harvest Festival at the Shaw Nature Reserve on Sunday, October 12. On-hand will be food from some of St. Louis' top restaurants, a farmers' market with local produce, a petting zoo and family activities from the Garden's ECO-ACT group, hayrides, bluegrass music, and more! Best of all, Garden members get in free. Please note: No alcoholic beverages or pets allowed. Coolers may be brought into the event to keep purchases from the farmers' market fresh.

Presented by the Missouri Botanical Garden, Schlafly Beer, and *Sauce Magazine*.
Sponsored by KMOX, Pepsi Co., the *Washington Missourian*, KWMU 90.7, and Mount Pleasant Winery.

Harvest Festival

Sun., Oct. 12
11 a.m. to 5 p.m.
Free for members

Local music

Augusta Bottoms (American folk music), 11 a.m. to 12:45 p.m.

The Flying Mules (retro-folk, bluegrass), 1 to 2:45 p.m.

The Ridgerunners (Texas swing), 3 to 5 p.m.

Food court

SqWire's
Gourmet Cafe &
Moonlight Restaurant
Kaldi's Coffee
Kirk's American Bistro
Modesto Tapas
Whole Foods Market
Gerard's

Local farmers

Benne's Best Meat
Homemade Gourmet
Sunnytimes Goat Cheese
Stinger's Honey
Prairie Grass Farms

PHOTO BY JOHN BEHRER

Natural Area Designation

In May, the Missouri Natural Areas Committee approved the nomination of a portion of Shaw Nature Reserve as a "Natural Area," the state equivalent of a federal Wilderness Area. The designated land comprises 126 acres spanning the Meramec River—114 acres of forest and 12 acres of river and gravel bar. The forest section has been deemed a "rare, best regional representative" of original oak-dominated bottomland. Most such forests today are second-growth forests, regrown after clearing of the oaks. The gravel bar is outstanding for its rich fauna and excellent water quality. Come see the splendor of our state's newest Natural Area this fall at the Shaw Nature Reserve.

A division of the Garden since 2000, the Gateway Center for Resource Efficiency is headquartered in the EarthWays Home, a century-old Victorian house renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. Located in the historic Grand Center theater district at 3617 Grandel Square. Tours are available on the third Friday and Saturday of each month. Call (314) 577-0220.

PHOTO BY JEAN PONZ

Wydown Middleschool LEAP team showcasing their recycling project results.

Don't Wait to Winterize!

Natural gas prices are predicted to rise this winter, but homeowners can still beat the chill. Do you know you can save 10% or more on your energy bill, simply by reducing air leaks in your home? Come to learn more at the EarthWays Home Open House Weekend, Friday to Sunday, October 17-19. Guided tours, displays, and demonstrations will feature affordable ways to prepare your home for cold weather and an expensive heating season. The EarthWays Home is located at 3617 Grandel Square, in the Grand Center Arts District of mid-town St. Louis. See the Calendar for tour details. For more information, visit www.mobot.org/gatewaycenter/earthways.html.

Students and Teachers... LEAP into Action!

by Jean Ponzi, *Gateway Center Program Manager*

LEAP—Leadership in Environmental Action Projects—fosters student leadership and teamwork abilities through environmental service projects focused on recycling and waste reduction. Offered by the Garden's Gateway Center for Resource Efficiency, and supported by a grant from the St. Louis-Jefferson Solid Waste Management District, LEAP begins its 11th year of environmental education this fall in the St. Louis area.

With classroom lessons and project guidance from Gateway Center's expert LEAP staff, students and teachers explore the "how and why" of waste management issues. Topics include landfills, options to reduce, reuse, or recycle waste items, and how useful products are made from the materials people recycle. Students conduct math-based waste assessments to learn first-hand "What's in the trashbag?" and apply their communication skills in school-wide awareness campaigns. LEAP students share their knowledge with adults and fellow students, and generate environmental action projects that can measurably reduce school waste—some projects even involve families and neighboring businesses!

A highlight of LEAP is a full-day field trip for each participating class, with a morning visit to the St. Louis region's largest landfill, and an afternoon tour of the Garden's EarthWays Home with hands-on activities that demonstrate many ways students can help reduce the waste generated in our society. Inspiring case studies of LEAP student achievement are posted on the Garden's website: www.mobot.org/gatewaycenter/leap.html.

LEAP will be offered this year in six-week classroom units, in fall, winter, and spring. Applications are available now, and the program is open to grades 4–12 in all public and private schools in the City of St. Louis and in St. Louis, Jefferson, and St. Charles Counties. For more information, and to request an application, contact LEAP Education Coordinator Chris Kalter at (314) 577-0207 or christopher.kalter@mobot.org.

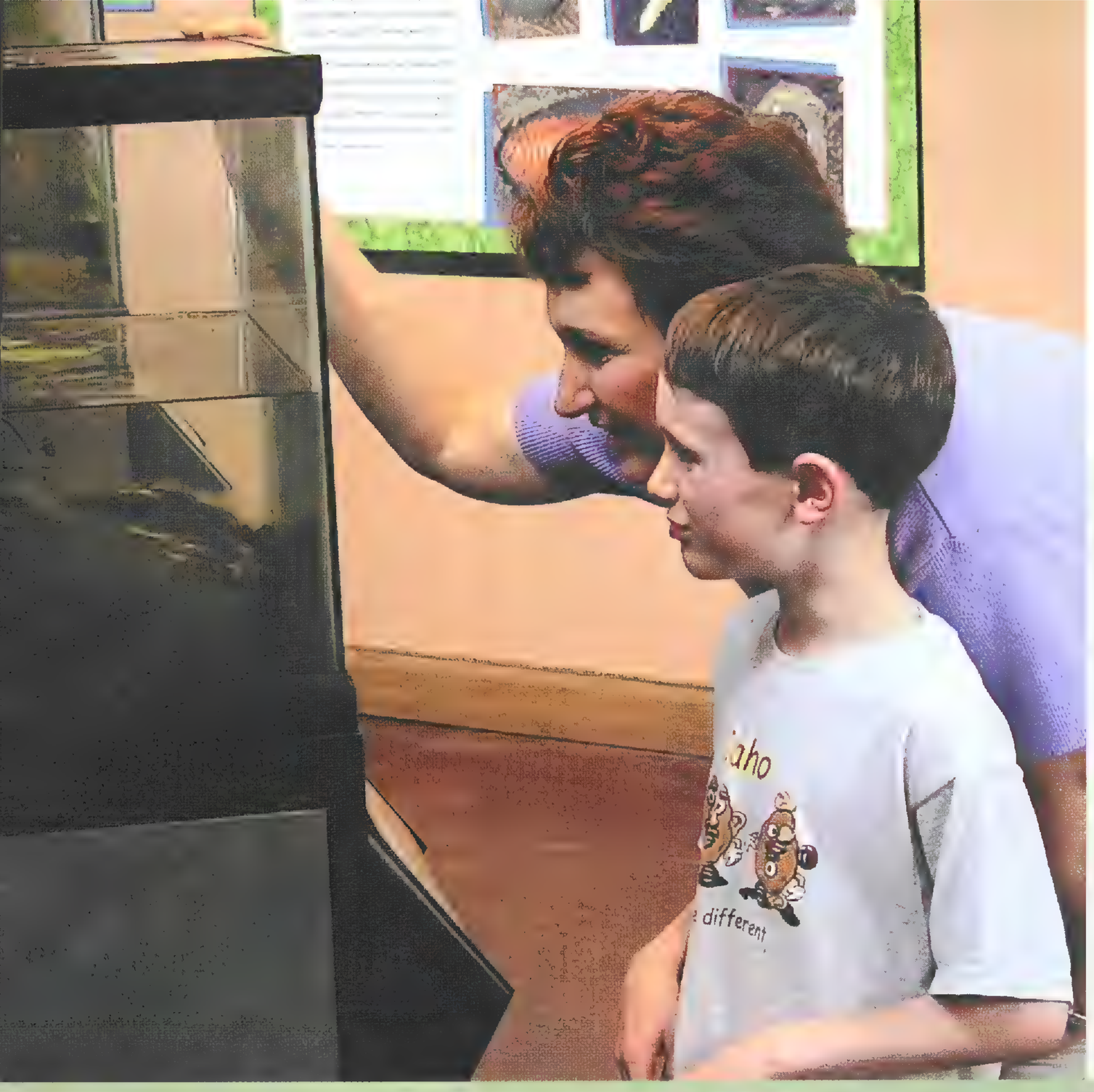


PHOTO BY CHARLES SCHMIDT

Left: Pat and Andrew Vaugh explore the exhibits at the Butterfly House.

A division of the Garden since 2001, the Sophia M. Sachs Butterfly House features butterflies in free flight inside a glass conservatory as well as outdoor habitats. Located in Faust Park, Chesterfield, MO, the Butterfly House is open Tuesday through Sunday 9 a.m. to 4 p.m. (5 p.m. in summer). For information, call (636) 530-0076.

Butterfly House

Fall festival at Faust

Don't miss the fun-filled weekend of Fall Festival at the Butterfly House, featuring gardening activities, Q-and-A sessions with plant and wildlife specialists, and plenty of crafts and games for kids. Watch the pipefitters' union assemble unique lawn sprinklers and learn how to set up your own beehive. Purchase a snack hot off the grill or get a great deal at the silent auction. This two-day event is held in conjunction with the Faust Park Folk Festival, which provides hay rides and costumed artisans in the historic village. Saturday and Sunday, September 27–28, 9 a.m. to 4 p.m. Call (636) 530-0076 for more details.

Spiders and Scorpions, oh my!

Get caught in the web of excitement when the fifth and final exhibit in the Spectacular Spineless Species series opens October 1, featuring those generally misunderstood arachnids: spiders and scorpions. Like insects, spiders and scorpions have their support structure, called an exoskeleton, on the outside. But unlike insects, which have six legs and three body parts, all arachnids have eight legs and only two body parts, even scorpions—those "pincers" are just part of their mouth.

Spiders and scorpions are carnivorous—and voracious. Scorpions are so greedy that they will eat until they pop! Both groups eat other invertebrates and even small vertebrates when they can catch them; thus, the Bird-Eating Tarantula of South American rainforests can reach over 10 inches across. Not all spiders spin webs, some run down their prey, and some tarantulas can go almost a year without eating at all. Even though all scorpions and spiders are venomous, only very few can harm humans, and most would prefer to run away.

Learn more and see some of these beasties at the exhibit, which runs through November 30, and features giant tarantulas and scorpions from around the world, as well as Missouri's two most venomous spiders, the Black Widow and Brown Recluse.

Ladybag Luncheon

The "bag ladies" are on patrol, and they are rounding up vintage, classic, new, and nearly new designer bags for a good cause. The LadyBag Luncheon and Auction will take place Thursday, September 18 at the St. Louis Club. All proceeds from the luncheon and sale of bags will benefit the Butterfly House education programs. Call (314) 351-3365 for more details.

Wells Fargo Home Mortgage proudly sponsors the LadyBag Luncheon and continues an on-going partnership by providing their customers with a designated donation feature to support both the Garden and the Butterfly House. For more information about the Sharing Advantage Program, contact Maureen Sullivan at (314) 872-2172, ext 496.

Halloween "Boo"terflies

No tricks, just treats at our special Halloween Scavenger Hunt throughout the Butterfly House. Kids 2 to 8 years: wear your costume and collect yummy goodies and a free ticket to the Magic House. Spooktacular crafts will be included. Saturday, October 25, 11 a.m. to 2 p.m. Call (636) 530-0076 for details.

Mayor Francis Slay and Rick Sullivan, CEO of McBride, sign the agreement to revitalize McCree Town while civic community, and political leaders look on.

News of the Neighborhood

In August, it was announced that the Garden District Commission, a non-profit organization of neighborhood residents, and the McRee Town Redevelopment Corporation were entering into an agreement with McBride and Son Homes to revitalize McRee Town, one of the City's most blighted communities. The new development will be called Botanical Heights.

To date, $13 million in federal, state, city, and private funds has been raised to support the predevelopment costs. McBride will invest an estimated $40 million for the construction and marketing of the homes. "We will be building several home styles in various price ranges," says McBride CEO Rick Sullivan. "Botanical Heights will become the most attractive neighborhood in St. Louis."

"The Garden District Commission has worked tirelessly with residents of McRee Town, Tiffany, Shaw, and Southwest Garden neighborhoods over the last five years," said Darryl T. Jones, President of the Garden District Commission board. "This is a grassroots project, where the master plan takes into account the wishes and needs of the residents. The feeling of community is tremendous."

PHOTOS BY DIANE WILSON

Great Dedication

On April 22—a beautiful, warm spring afternoon—Garden donors and trustees, friends of the Reserve, committee and staff gathered to dedicate the Dana Brown Overnight Education Center (DBOEC), marking an important milestone in the history of Shaw Nature Reserve. Readers of the *Bulletin* (Nov/Dec 2002) are already familiar with many of the details of this unique new facility, with its four meticulously restored historic log lodges, shower house and assembly hall, and plan to introduce city folks to the wonders of nature.

First imagined in 1990 when a master plan was developed for the Reserve, the DBOEC promises to make an innovative and much-needed contribution to the field of environmental education for teachers and students in the St. Louis area. Providing children with a direct interaction with nature...frogs in the wetlands, dew-covered spider webs, the sound of deer snorting in the woods just out of sight in the darkness...helps them to develop a lasting appreciation and understanding of natural world, enabling them to become better stewards of the Earth.

The DBOEC was made possible through the generosity of Dana Brown Charitable Trust, David B. Lichtenstein Foundation, Peg and Blanton Whitmire, Mary Ann Lee, Norman J. Stupp Foundation, and Jane and Whitney Harris. For details on this unique facility and its many programs, call Jan Oberkramer at (636) 451-3512.

At left: Visitors mingle inside the assembly hall during the dedication of the Dana Brown Overnight Education Center.

Blanton Whitmire, Betty Nellums, Peg Whitmire, and Bob Nellums pose on the porch of the Lee Lodge, one of four historic log cabins.

PHOTO BY ELLEN FISH

Garden staffer Amy Hancock, who recently underwent surgery to reconstruct her larynx, being interviewed by Inside Edition's *Victoria Recaño. The show will air in September.*

Everybody Loves Amy

Maybe you caught one of her multiple appearances on local television networks (four and counting), or her two front-page articles in the *St. Louis Post-Dispatch*, or the August issue of *St. Louis Magazine*? Well, if not, you can see her on *Inside Edition* in September or on her very own Discovery Channel special this fall. We're talking about Amy Hancock, media darling, Garden employee, and first U.S. recipient of an experimental surgery to reconstruct her larynx. Amy says the ubiquitous media attention following her surgery is surprising, but "I'm loving every minute of it. People recognize me on the street now. My new name ought to be 'That-girl-who-had-surgery,'" she laughs.

When Amy lost her larynx to cancer, she thought she'd never speak again, but in May, Amy's surgeon Dr. Randal Paniello at Barnes-Jewish Hospital fashioned a type of device from her own tissue to enable her to talk. "It's so much easier to communicate now… in my job and in every aspect of my life," says Amy, who used to have to root through her purse to find her electronic voice box to answer a simple question. As a senior membership technician at the Garden, Amy talks on the phone a lot—in fact, she might be talking to you, if you call to make a tribute at the Garden.

PHOTO BY SCOTT WOODBURY

Grant from MO Department of Conservation

In July, the Missouri Department of Conservation entered into a three-year cooperative agreement with the Shaw Nature Reserve to promote the conservation, use, appreciation, and exhibition of native plants, and the control of alien invasives. "We are very pleased to continue and to enhance the Garden's strong cooperative relationship with the Missouri Department of Conservation," says Director Peter Raven. "In addition to the Nature Reserve, other areas of the Garden, including Horticulture, will participate in fulfilling our mission with the Department." "The new relationship will greatly elevate our ability to get the message out," says John Behrer, director of the Shaw Nature Reserve. As part of the agreement, SNR staff will host annual workshops on native plants, expand course offerings on the subject, develop nursery production techniques for hard-to-grow species, and develop regional manuals for invasive species removal and a variety of other related topics.

PHOTO BY DIANE WILSON

Double Honors

Deborah Chollet, director of the Garden's Gateway Center for Resource Efficiency, has been honored as Partner of the Year by the Environmental Protection Agency (EPA) Region 7 and has also received an Individual Champion Award from Choose Environmental Excellence—Gateway Region.

Chollet was awarded the EPA distinction in June for her notable work in developing environmental stewardship programs in Missouri. Chollet's accomplishments include co-founding the St. Louis Regional Chapter of the U.S. Green Building Council, which promotes awareness of "green" or sustainable building practices; and organizing Leadership in Energy and Environmental Design (LEED) training workshops in the St. Louis area. She also currently serves on the Missouri Governor's Energy Policy Task Force and chairs the Regional Chamber and Growth Association's (RCGA) Environmental Council Energy Committee. The EPA aims to protect the natural environment through research, education, and assessment. Region 7 encompasses Iowa, Kansas, Missouri, Nebraska, and nine Tribal Nations.

Chollet also received an Individual Champion Award from Choose Environmental Excellence—Gateway Region in May for her efforts to increase environmental practices in the St. Louis metropolitan area.

calendar of events

September

Now through September
Photographs of *Seiwa-en*, the Japanese Garden, by "Artist of the Month" Tom Tyler are for sale in the GGS.

Now through December
Classes and tours for adults and families on topics from plant care and landscape design to cooking, art, botanical crafts, are held at the Garden's main campus, as well as at outreach locations in Ellisville, the EarthWays Home, Shaw Nature Reserve, and the Butterfly House. For information, visit www.mobot.org/gardeninghelp or call (314) 577-9441.

Now through Tues., Sep. 30
Caterpillars on now as part of the "Spectacular Spineless Species" series of arthropod exhibits. Activities, games, and displays. Tues. to Sun., 9 a.m. to 4 p.m. BH. $

Mon., Sep. 1
Japanese Festival continues, 10 a.m. to 5 p.m. Admission $10 adults, $7 seniors, $3 Garden members, free for children age 12 and under. See the Garden's website for schedule.

Now through Wed., Sep. 3
Japanese calligraphy art exhibition during Japanese Festival hours. RC.

Wed., Sep. 3
St. Louis Times Fun Fest.
9:30 a.m. to 1:30 p.m. RC.

Sat., Sep. 6 through Sun., Nov. 2
Local artist Bryan Haynes captures the unique land of the Shaw Nature Reserve in a regionalist style reminiscent of such greats as Grant Wood and Thomas Hart Benton. Paintings and limited edition prints will be on display and for sale in the Nature Reserve's Bascom House. Tuesdays through Sundays. 10 a.m. to 4 p.m. SNR.

Sat., Sep. 6
Author Don Kurz and illustrator Paul Nelson sign their book, *Trees of Missouri*. 1 p.m. GGS.

River City Professionals Happy Hour

Tues., September 16
Join the River City Professionals, a networking group of young entrepreneurs and business professionals, for happy hour at the Garden. Cash bar. 5:30 to 9 p.m. RC. Sponsored by *Sauce* magazine.

Mon., Sep. 8 through Fri., Nov. 14
"Seasons," a photography exhibition by Jack Jennings, celebrates 25 years of the four seasons at the Garden. RC.

PHOTO BY DIANE WILSON

Kids, Bring Your Grandparents!

September 7

National Grandparents Day is Sunday, September 7, and the Garden is rolling out the welcome mat. Kids, let your grandparents know how much you appreciate them by spending a special day together at the Garden. Take a leisurely stroll to the Japanese Garden to feed the hungry koi fish together. Find a model train winding through the Spoehrer Children's Garden in the Kemper Center for Home Gardening, where 23 demonstrations gardens might inspire grandma and grandpa with ideas for their own home. Enjoy lunch together at the Garden Café, then browse for a souvenir of your special day at the Garden Gate Shop. Members, invite your friends to the party: even non-member grandparents will receive half price admission when they visit the Garden with their grandchildren on this special day. Free admission for children 12 and under. 9 a.m. to 5 p.m.

Mon., Sep. 8 through Wed., Dec. 31
2004 Garden calendar display.
9 a.m. to 5 p.m. RC. Calendars available for purchase in GGS. Proceeds support the Missouri Botanical Garden.

Wed., Sep. 10
** Members only: Photographer Jack Jennings signs his new book, *Seasons*, and the 2004 Garden calendar. Members save an additional 10 percent off the book and calendar. Sample the Garden's private label food items. Noon to 3 p.m. GGS.

**Members Day: Reflections of Color and Light. See page 8 for details. 11 a.m.

"Be A Butterfly" workshop for parents and pre-schoolers. 10 to 11 a.m. Advance registration required; call (636) 530-0076, ext. 13. BH. $

Fri.–Sun., Sep. 12–14
Native Plant Conference. 10 a.m. to 4 p.m. SNR. Advance registration required; call (636) 451-3512.

Sat., Sep. 13
Children's Story Time, for ages four to 10, features *Red Are the Apples*. Children under age four must be accompanied by an adult. 11 a.m. GGS.

"Caterpillar Cabin" class for kids. 10 a.m. For information, call (636) 530-0076. BH. $

Sat. & Sun., Sep. 13 & 14
Photographer Jack Jennings signs his book, *Seasons*, and the 2004 Garden calendar. 1 to 3 p.m. GGS.

Gardeners of America show. Sat., noon to 5 p.m. Sun., 9 a.m. to 5 p.m. RC.

Gateway West Gesneriad Society show and sale. 9 a.m. to 5 p.m. RC.

Sun., Sep. 14
Greater St. Louis Iris Society beardless iris auction. 4 to 8 p.m. RC.

Wed.–Sun., Sep. 17–21
Sale of signature bulbs featured in the Garden. Members save an additional 10 percent off all Garden-variety bulbs and bulb supplies, books, and tools. GGS.

Thurs., Sep. 18
"LadyBag Luncheon" benefits science education outreach programs at the Butterfly House. Donated purses from fashion-forward stores and friends will be auctioned. St. Louis Club. Tickets $75 each. For information, call (314) 361-3365. BH. $

Fri. & Sat., Sep. 19 & 20
Open House Days at the EarthWays Home. Tour this century-old Victorian home renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. Third Friday and Saturday of each month. Guided tours at 10 a.m., 11 a.m., noon, and 1 p.m. $2 (free for Garden members). 3617 Grandel Square. Call (314) 577-0220. EH

Sat., Sep. 20
Children's Story Time features *English Rose* and a talk on roses for adults. 2 p.m. GGS.

Sat. & Sun., Sep. 20 & 21
Sample the Garden's private-label food items. 1 to 4 p.m. GGS.

Sat., Sep. 27
"Rhapsody In Bloom." Light classical music and contemporary dance at several locations throughout the Garden. 10 a.m. to 3 p.m. Presented by KFUO-FM and the Garden.

Sat. & Sun., Sep. 27 & 28
Greater St. Louis Dahlia Society show. Sat., noon to 5 p.m. Sun., 9 a.m. to 5 p.m. RC.

Meet local artist Carol Greer, who will offer an expanded selection of her pottery available for sale. 10 a.m to 5 p.m. GGS.

"Fall Festival" in Faust Park. See page 13 for details. BH. $

Wed., Oct. 1
AARP "Celebration of Life." RC.

Wed., Oct. 1 through Sun., Nov. 30
Spiders and Scorpions conclude the "Spectacular Spineless Species" series of arthropod exhibits. Activities, games, and displays. Tues. to Sun., 9 a.m. to 4 p.m. BH. $

Fri., Oct. 3 through Fr., Oct. 31
Prints and paintings by "Artist of the Month" Barbara Cullen will be available for sale in the GGS.

Fri.–Sun., Oct. 3–5
Del Sol jewelry trunk show. 10 a.m. to 5 p.m. GGS.

Sat. & Sun., Oct. 4 & 5
Twelfth annual "Best of Missouri Market." See page 7 for details. 9 a.m. to 5 p.m. $

In the shop: Wind and Willow food tasting. Children's Story Time features *Yoko* at 11 a.m. Painting demonstration by artist Barbara Cullen. 11 a.m. to 3 p.m. GGS.

Historic Shaw Art Fair directly across from Spink Pavilion on Tower Grove Ave., 10 a.m. to 5 p.m. $

Sun., Oct. 12
Second annual outdoor Harvest Festival. See page 11 for details. SNR.

Fri. & Sat., Oct. 17 & 18
Open House Days at the EarthWays Home. Tour this century-old Victorian home renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. Third Friday and Saturday of each month. Guided tours at 10 a.m., 11 a.m., noon, and 1 p.m. $2 (free for Garden members). 3617 Grandel Square. Call (314) 577-0220. EH

Fri. & Sat., Oct. 17 & 18
**Members only. Commerce Bank Education Building open house. See page 8 for details.

Sat., Oct. 18 through Fri., Nov. 14
"As the Leaves Turn." See the glorious colors of fall at both the Garden and adjacent Tower Grove Park with fun, food, and activities. See page 6 for details.

Wed., Oct. 22
Taste Rothschild Farms food products. 1 to 4 p.m. GGS.

Sat. & Sun., Oct. 25 & 26
Orchid Society of Greater St. Louis show and sale. 9 a.m. to 5 p.m. RC. Members save an additional 10% off all orchids and orchid pots, soil, and books in the GGS.

Greater St. Louis Daffodil Society sale. Sat., 7 a.m. to 5 p.m. Sun., 9 a.m. to 5 p.m. RC.

Mid-America Regional Lily Society sale. Sat., 7 a.m. to 5 p.m. Sun., 9 a.m. to 5 p.m. RC.

Mon., Oct. 27
Dr. Norman Myers speaks on Mass Extinction. See page 8 for details. 1 p.m.

Wed., Oct. 29
**Members Day: "Fall Color Tour." See page 8 for details. 11 a.m.

Now through Fri., Nov. 14
"As the Leaves Turn" continues with gorgeous fall color at the Garden and Tower Grove Park. Take the self-guided tour, enjoy the weekend festivities.

Sat. & Sun., Nov. 1 & 2:
"Wizard Weekend" returns! Details to be announced, including a Halloween costume contest and free Jelly Belly samples in the GGS.

PHOTO BY BETH HAINES

St. Charles County Appreciation Week
September 15–21

St. Charles visitors to the Garden will receive two-for-one admission with proof of residency during "St. Charles Appreciation Week" from Monday, September 15 through Sunday, September 21. An art exhibition highlights artists from the St. Peters Community & Arts Center. Saturday afternoon, the St. Charles Symphony performs, sponsored by Landscape Technologies, Inc. The Garden Gate Shop will offer a 10% discount to all St. Charles residents during the week-long special, and St. Charles visitors who purchase a Garden membership during the period will receive 10% off. So members, invite your St. Charles neighbors, coworkers, and friends to visit the Garden and take advantage of this special offer. Cross that Missouri River and come on over to see what's in bloom in our metropolitan backyard.

All events are free with admission or membership unless otherwise noted.

BH = Butterfly House
Faust Park, 15193 Olive
Chesterfield, MO
CA = Cohen Amphitheater
CL = Climatron
EH = EarthWays Home
3617 Grandel Square
Midtown St. Louis, MO
GGS = Garden Gate Shop
JG = Japanese Garden
KC = Kemper Center
MC = Monsanto Center
RC = Ridgway Center
SNR = Shaw Nature Reserve
Hwy. 100 & I-44,
Gray Summit, MO
SP = Spink Pavilion

** denotes a Members-only event.
$ denotes an additional fee.

Hands-on learning activities are offered by volunteers on the weekends. Look for the colorful Volunteer Interpretive Carts on the Garden grounds.

Great Garden Adventures
Take a self-guided "Great Garden Adventure" tour. Ask at the ticket counter about a Fitness Foray, Stroller Strut, Kids' Quest, or Guided Exploration. Wheelchair-friendly route also available.

Walking tours led by Garden Docents leave from the ticket counter at 1 p.m. daily throughout the year (except during Japanese Festival and Best of Missouri Market).

Garden walkers' breakfasts
In cooperation with the American Heart Association, the grounds open early every Wednesday and Saturday at 7 a.m. to encourage fitness walking. A light breakfast is available for purchase in the Garden Café.

Tower Grove House,
Garden founder Henry Shaw's 1851 country home is closed for reinterpretation until late 2004.

PHOTO BY BETH HAINES

Patrick Daniel, a member of the MBG Turf crew, demonstrates the use of a slit-seeder.

grow, grass, grow

Time for Lawn Renovation

by Scott Stelling, *Turf Manager*

The cooler days and nights of September have arrived! Did your lawn make it through the summer heat? Chances are, large portions of turf may have been thinned or lost to disease, insects, drought, shade, traffic and soil compaction, weed competition, or poor soil fertility. Hold onto your grass! Fall is the ideal season to renovate and rejuvenate your cool-season (i.e., tall fescue, Kentucky bluegrass or fine fescue) lawn.

There are two options, depending on the severity of the problem. If less than half the lawn is covered by the desired grass, and if present weeds cannot be controlled selectively, then complete renovation may be warranted. Complete renovation is an extreme measure: it involves killing all existing vegetation, core aerating or roto-tilling, and overseeding.

Partial renovation is more appropriate when you've still got over half a lawn to love. This process involves the introduction of improved varieties of the existing species into your lawn, or the planting of an altogether different species that is better adapted to the conditions particular to your lawn. Research the right or improved variety, then purchase high-quality seed. One way to tell? Check the label for the following standards: the seed must be less than one year old; all varieties should be named and their state of origin listed; the listed germination should be greater than 85 percent; the bag should contain no noxious weeds or "other crop," and less than 1% weed seed.

Step-by-step

1. Core aerate the entire lawn, not just areas you want to reseed. If the soil is hard, water the night before for better penetration.

2. Rent a slit-seeding machine. It will slice open the soil and set the seed into the slits ⅛ inch deep, giving you excellent seed/soil contact without having to use straw. Follow the seeder's instructions to determine quantity (2–5 lbs. for Kentucky bluegrass and 5–8 lbs. for tall fescue). I like to divide in half and make at least two passes.

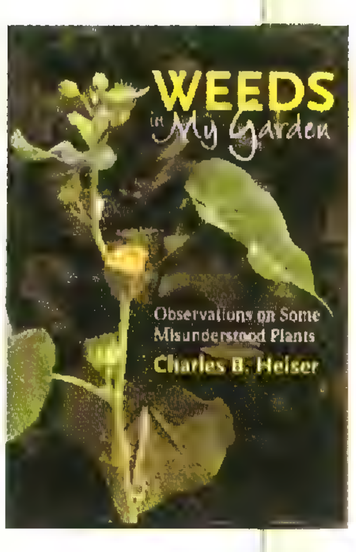
3. Apply a starter fertilizer containing nitrogen (N), phosphorous (P), and potassium (K) to the seeded area. Follow the label directions to determine how much to apply.

Water frequently enough to keep the soil moist, but not so much as to cause puddles, and begin weekly mowing once the grass has reached a height of three inches. As the seedlings mature, water as for the rest of the lawn, deeply, but less frequently.

October is redirection month.

During the cool days of late fall, energy produced by photosynthesis is redirected for root growth and storage, and not for leaf growth. Less leaf means three things: reduce mowing frequency to every other week. Second, core aeration then fertilization in late October with a quickly soluble source of nitrogen (e.g., urea) will increase the amount of energy stored in the roots, without overstimulating leaf growth. Apply 1–1½ lbs. of actual nitrogen per 1000 square feet. Third, control dandelions and other perennial broadleaf weeds. Dandelions, just like fescue, are shunting energy into their roots in October, which means that an application of broadleaf herbicide now will result in the death of the whole plant. Follow these three simple steps in the fall and you might be surprised by how awesome your lawn looks next spring.

Check it out

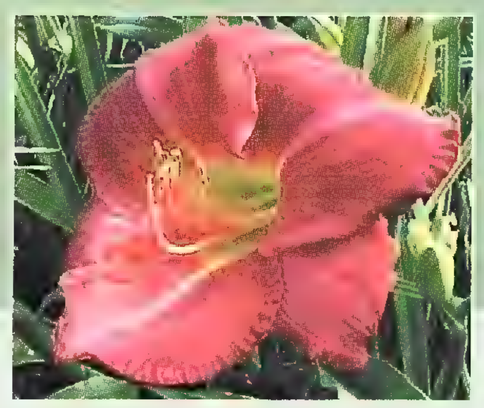


Not all plants were created equal. A new book by Charles B. Heiser of Indiana University, *Weeds in my Garden: Observations on Some Misunderstood Plants* (Timber Press), examines these uninvited invaders in a new, and positive light. Professor Heiser credits his interest in weeds to courses he had with Edgar Anderson, a former Director of the Missouri Botanical Garden, whose book, *Plants, Man and Life*, is also available in the Garden Gate Shop.

PHOTO BY BETH HAINES

Now in his fifth season at the Garden, resident Turf Manager Scott Stelling oversees the Garden's 33 acres of lush green grass, currently ranked by lawn equipment manufacturer Briggs & Stratton as one of the top 10 lawns in the country. "Good lawns don't just happen," he notes. "They require a commitment." He currently serves on the board of the Missouri Valley Turfgrass Association.

September



October

From Pots to Planks

Every June the Garden invites members and the public to recycle their garden plastic. The U.S. generates over 80 million tons of horticulture plastic each year, so it just doesn't make sense to throw it away. Now in its fifth year, the Garden's program is the only one of its kind to recycle both plastic pots and polystyrene cell packs and trays. The program has saved over 275,000 pounds of plastic from landfills and has been hugely popular with gardeners in the metro area. Over 1,800 free Garden passes were distributed during the collection period this year alone.

Now those 36,000 pounds of cast-away containers are in the hands of St. Louis-based Environmental Recycling, Inc., who will process the plastic into 2 x 6-inch black plastic lumber in 8-foot lengths. The lumber is on sale now and is perfect for fall production of raised beds. The proceeds from the sale of the Garden's recycled plastic lumber will support next year's Plastic Pot Recycling. Some of the plastic lumber produced will also be used for building raised beds for summer youth gardening programs at local schools.

Plastic lumber is a durable alternative to CCA-treated lumber and can last 50 years while the life expectancy of treated wood is only 15 years (5 years if untreated). Plastic lumber is completely waterproof, will not rust, and is not affected by ants, termites, or other insects. It is low maintenance and never needs to be primed, painted, or sealed. Best of all, the use of plastic lumber saves our trees and is 100% recyclable.

A very special thanks to the St. Louis-Jefferson Solid Waste Management District and the Missouri Department of Natural Resources for funding this program. For information on purchasing recycled plastic lumber, call (314) 577-9561.

PHOTO BY BETH HAINES

A raised bed made of recycled plastic lumber. This garden at St. Louis University Elementary is part of a summer youth gardening program run by the Kemper Center for Home Gardening. The lumber is made from recycled garden plastic collected during the Garden's Plastic Pot Recycling program.

around the garden...

PHOTO BY ELIZABETH MCNULTY

Senad Duracak

Following the civil war in his native Bosnia, Senad Duracak (pronouced seh-NAHD doo-RAH-check) spent five months in a refugee camp before relocating to St. Louis. "My sister is here, and lots of people from home." With his degree in Agriculture, Senad landed a job at the Garden in 2001 and was promoted this spring to care for the Strassenfest German Garden and surrounding areas. Fluent in Bosnian, Croatian, German, and Italian, Senad worried about his broken English, but his fears were unnecessary. "Senad's an excellent horticulturist," says Horticulture supervisor Ben Chu. "Thanks to his work ethic, the language barrier was quickly overcome." Today, Senad credits his daughter with his improved command of the language: "She's going to preschool, studying English, and she's teaching me." Senad lists pruning as his specialty, and Ben Chu agrees: " Senad is an excellent pruner, a real artist." Admire his handiwork in the shrubs and trees around the Lehmann Building and be sure to tell him hello! "I need the practice talking English," he laughs.

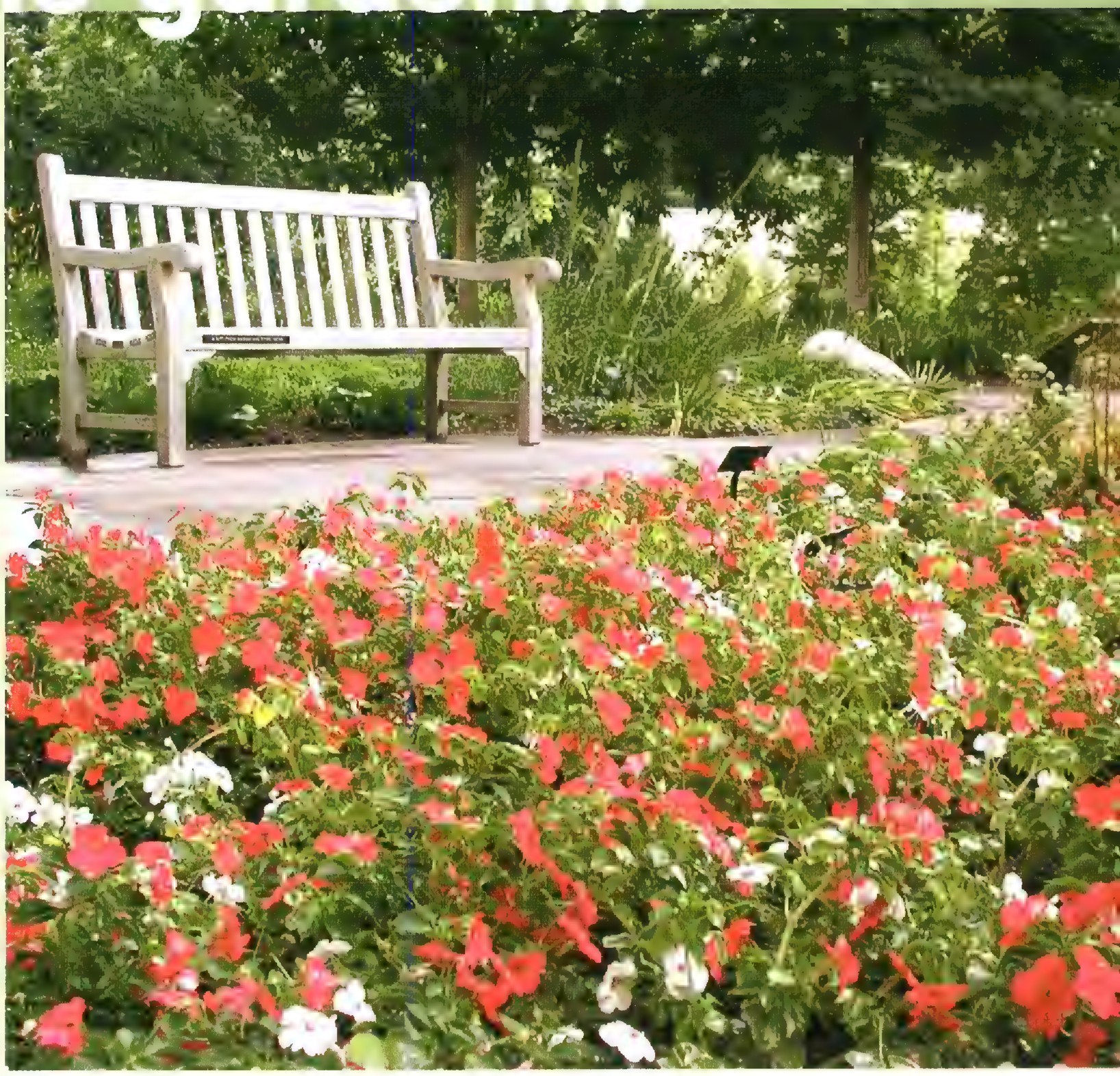


PHOTO BY BRYAN RECKAMP

Strassenfest German Garden

Honoring St. Louis' German immigrant heritage, the Strassenfest German Garden incorporates native flora of Germany and central Europe, as well as plants hybridized or discovered by native Germans. The design is that of a natural woodland setting full of herbaceous perennials and biennials, with deciduous and evergreen trees and shrubs. Included are sweeps of grasses, astilbes, ferns, columbine, yarrow, and many other plants. Annuals are placed in small pockets to add color, including impatiens and geraniums, which are widely used in Germany. The woody plant material is mostly native to central Europe such as the common boxwood, pontic azaleas, and linden trees. One particular type of linden tree, the *Tilia tomentosa*, is that which lines the famous Unter den Linden Boulevard in Berlin.

The centerpiece for the garden is a bronze bust of Dr. George Engelmann by Paul Granlund. A German physician and noted botanist, Engelmann immigrated to St. Louis in the 1830s and became a principal advisor to Garden founder Henry Shaw, laying the foundation for the Garden's world-renowned research program. The sculpture features some of the species of plants described by Engelmann or named for him, including conifers, cacti, and grapes. Upon his death, Engelmann donated his entire collection of more than 95,000 plant specimens to the Garden, most of which were collected in the western and southwestern United States.

Formally dedicated in July 2000, the Strassenfest German Garden was funded by a charitable donation from the St. Louis Strassenfest Corporation.

Beyond Mums

by Chip Tynan

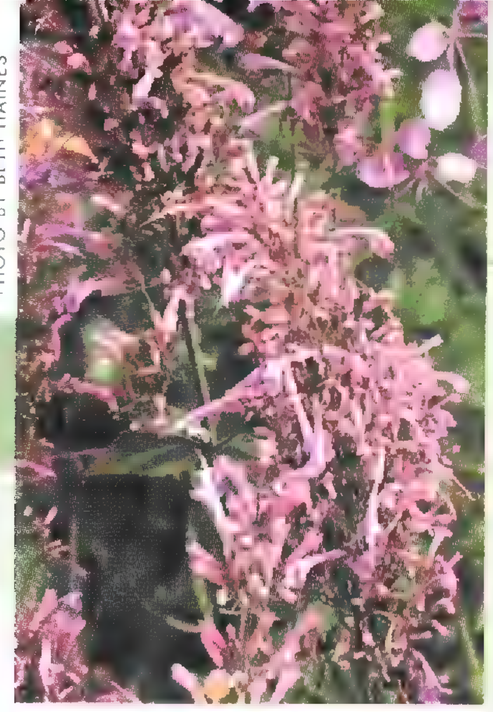


PHOTO BY BETH HAINES

Agastache astromontana

Mums and asters have always provided a colorful backdrop to the season that most of us see as "closure" to the growing year. In actuality fall provides us with another growing season. Recent years have seen an increase in interest and availability of half-hardy or tender perennial plants with outstanding potential to enhance the autumn garden. The Mint family (Lamiaceae) is especially rich in late-blooming species, including a host of relatively new tall-growing Sages (*Salvia* sp.) and Hyssops (*Agastache* sp).

Several selected new forms of Scarlet sage (*Salvia splendens*) are particularly outstanding. *Salvia splendens* 'Van Houttei' is a tall, lanky, fall flowering sage with long tubular burgundy flowers, perhaps best suited for southern climates with longer growing seasons. But the recently introduced cultivar 'Faye Chapel' is a brilliant scarlet sport of *Salvia* 'Van Houttei,' having a lower spreading habit to two or three feet, and flowering much sooner from early summer right until frost. *Salvia* 'Caribbean Coral' is a newer introduction, a 'Van Houttei' seedling selection bearing deep coral orange flowers, also from early summer through frost.

Many gardeners are familiar with the Velvet or Mexican bush sage (*Salvia leucantha*), which is often grown for its attractive fragrant, velvety leaves. Growing three to five feet in a single season, it bears spectacular fuzzy lavender-blue flowers with white corollas, but these often appear just as frost is right around the corner. An outstanding new compact dwarf selection is *Salvia leucantha* 'Santa Barbara,' reaching only two feet tall, with a spread up to four feet wide. Its purple flower spikes lack the showy white corolla of the species form, but that's an acceptable trade-off for its earlier flowering habit beginning in midsummer until lasting until frost.

Any discussion of late salvias would be lacking without mentioning the striking Blue Anise sage (*Salvia guaranitica*). Long, deep blue-violet tubular flowers are borne on tall terminal spikes atop 3 to 5-foot tall plants, beginning in early summer and continuing to killing frost. Several cultivars exist, perhaps the best being *S. guaranitica* 'Black and Blue,' a large shrub-like selection with dark blue petals that emerge from black sepals. All of these salvias prefer full sun and well-drained soil.

As a rule, the hyssops are similar in flower, growth habit, and cultural needs to many salvias, though their flower colors tend more toward pastel shades. Like many salvias, many also have pleasantly scented foliage. An outstanding new anise-scented hyssop is *Agastache foeniculum* 'Golden Jubilee,' a golden/chartreuse-leaved form that is a 2003 All-American award winner. Dense spikes of long-lasting lavender-blue flowers play off well with the golden foliage. *Agastache astromontana* 'Pink Pop,' a Mexican hyssop cultivar, bears large, long-blooming fragrant orange-pink tubular flowers from early summer until frost. Many *Agastaches* grow readily from seed started in late winter and flower the first summer. Gardeners with heavy soils may find that the hyssops perform better in containers rather than in-ground plantings.

Grow these plants and they will delight your senses and enliven the garden. Their heat and humidity tolerance is a definite plus in local gardens. But the most thrilling feature they all share is that they draw and feed butterflies, beneficial insects, and most especially migrating hummingbirds. What could possibly beat the sight of tall bloom spikes corkscrewing against clear autumn light as hummingbirds, looking all the world like miniature dirigibles flying at warp speed as they streak from plant to plant in your garden faintly chirping as they go, with wings a steady blur?

PHOTO BY ELLEN PEESCH

On the Garden staff since 1986, Chip Tynan manages the Garden's Horticulture Answer Service, overseeing a staff of 40 volunteers who field an excess of 20,000 questions annually. He is a well-known local columnist for the St. Louis Post-Dispatch *and regularly teaches adult education courses at the Garden, talks to gardening clubs, and appears on local TV and radio as a gardening expert. Tynan's email is chip.tynan@mobot.org.*

the website...

Plant Finder:
Cultural information on over 2,000 plants growing in the Kemper display gardens.

Find-A-Plant:
Search the living plant database to find what plants are growing in the Garden and where.

Gardening Help:
Information on over 300 gardening topics, including all Hortline messages.

Integrated Pest Management:
Diagnostic and control measures for nearly 100 of the most common insect, disease, and environmental problems encountered in Missouri.

Plants of Merit:
Plants selected by local horticulturalists with outstanding qualities for dependable performance in the region.

Plants in Bloom:
Updated weekly at the Garden, along with current photos, updated biweekly.

featured plant of merit

PHOTO BY ALAN STENTZ

Amelanchier arborea

The most tree-like of the Missouri native serviceberries, the Downy Serviceberry typically grows 15–25 feet tall. Five-petaled white flowers in spring, edible blueberry-like fruits in June, dark green leaves in summer, and excellent orange-to-red fall color give this small deciduous tree multiseason beauty and interest. Good for shrub borders, open woodland areas, and naturalized areas.

Plants of Merit™ are selected by Garden staff for outstanding qualities and dependable performance in the St. Louis area.

japanese garden

Behind the Scenes in *Seiwa-En*

Ben Chu is a little worried—a surprising situation, considering that he's known Garden-wide as the laid-back curator of the Japanese Garden, a man who nearly epitomizes that garden's Zen mystique. A nursery had delivered a replacement tree that morning, but the root ball was completely squashed and Chu was concerned about its survival. "If a plant dies in the Japanese Garden, we try to replace it with a like plant—same leaf texture, flower and leaf color, to preserve Koichi's plan."

"Koichi" is the late Koichi Kawana, renowned professor of environmental design and landscape architecture at the University of California—Los Angeles, and designer of MBG's Japanese Garden. Prior to his death in 1990, Kawana visited *Seiwa-En* twice a year. Chu, who joined the Garden in 1982 and became Japanese Garden supervisor in 1986, worked with him during those visits.

"He was a quiet man. He would never say anything negative—he just wouldn't say anything if he was displeased. He was very knowledgeable and delighted in sharing that knowledge," says Chu. "Prior to his death, we placed graduated sticks in the garden to demonstrate the appropriate scale of each element—stones, trees, shrubs and took 400 photos. Koichi annotated them. We refer to them for future preservation of the Garden's harmony according to his vision."

As Horticulture Supervisor of the south end of the Garden, Chu is responsible for overseeing the care and maintenance of the Boxwood Garden, the English Woodland Garden, the Victorian area, the Lehmann Building and surrounding landscapes, and the Director's Residence, as well as the Japanese Garden, but his first interest remains *Seiwa-En*.

"I learned first from Koichi, then through observing the garden over the last 18 years," he says modestly. He has also read and studied, attended countless courses and symposia, and learned some basic Japanese language skills. In 1998, Chu attended a two-week seminar at the University of Kyoto. "It really helps to put our garden in perspective, to see historical gardens and how they developed over time, understanding a particular style."

The greatest challenges facing any caretaker of the Japanese Garden, says Chu, aside from the meticulous grooming, are the practical concerns of managing the

PHOTO BY JUSTIN VISNESKY

Ben Chu

Ben Chu grew up in the shadow of the Garden, right across from Tower Grove Park. He remembers visiting the Garden and his own early interest in plants. "My mother was always gardening and I helped her even as a child." In high school, he thought he might become a biology teacher, but eventually decided on horticulture. "I enjoyed playing in the dirt," he laughs. Ben worked as a professional tree trimmer, doing what he calls "pruning on a grand scale," before joining Garden staff in 1982. The harmony of the Japanese Garden depends heavily on pruning, so Ben was a natural fit.

4.5-acre lake and the waterfowl it attracts in a city setting. To keep the lake from "looking like pea soup," the Garden uses a combination of aerators and earth-friendly "bio-augmentation," the introduction of healthful bacteria to digest nutrients in the water.

The best kept secret of the Japanese Garden? The view from the drum bridge, says Chu. "Teahouse island is closed except during Japanese Festival, but *taikobashi* [the bridge leading to it from the west] is open and it's the highest point in the garden. The views are spectacular, definitely worth the climb."

After nearly 20 years in the Garden, Chu confides that the most important thing to learn, of all the many skills required to maintain a garden of this precision and beauty, is patience. "*Seiwa-En* is an ongoing process. We have to deal with new concerns over time. However, watching a garden grow and mature—witnessing the fruits of your labor—is a very exciting thing."

A Zen Garden of Your Own

Traditional Japanese gardens represent paradise and are places to achieve peace of mind in an otherwise tumultuous society. Zen Buddhism was brought from China to Japan in the 13th century, and heavily influenced the most famous garden designers. With the exception of a few symbolic trees, such as evergreens, which are almost always included, these gardens rely more on symbol and design, and less on elaborate plantings. By studying a few basic Zen principles, home gardeners in any region and with any space allotment can create their own Japanese-inspired garden.

Upon completion of the Missouri Botanical Garden's *Seiwa-En*, designer Koichi Kawana authored a series of articles, from which much of this information is drawn.

Naturalness, *shizen*. In planning a Japanese garden, "inspiration and design elements should come from actual natural phenomena." Nothing should be forced or artificial. Water is a symbolic necessity in the garden, but as Kawana notes "If space is a problem, one is supposed to be able to enjoy the tranquility of the sea in contemplation of a bucketful of water contained in a stone basin." In fact, actual water is not required: a dry garden of gravel or sand can be used to represent a symbolic sea.

In keeping with the cycle of nature, "The garden design is not one but rather four designs, one for each of the four seasons of the year." In different seasons, the focal points of the garden may switch, but all seasons should be represented. For example, in Japanese culture, snow is considered a "flower" or ornament in the garden. Objects, such as the *yukimi-doro*, or "snow-viewing lantern," in *Seiwa-En* are specifically designed to be appreciated in winter when capped with snow.

Suggestion, *miegakure*. Japanese culture embraces communication through implication rather than through direct statements, believing meaning exists beyond that which can be described in words. This design principle requires that objects be partially hidden, views be partially obscured, leading the viewer onward while creating an air of profundity and mystery. Rock is a symbolic necessity, representing stability. If large stones are used, they should always be installed at least one-third to one-half buried.

Zen Buddhists introduced the Japanese to *sumi* paintings, which, while painted in black and white, can suggest an "endless variation of colors according to one's imagination." Thus to enable freedom of imagination, Japanese gardens are primarily monochromatic with only accents of color.

Asymmetry. "The rejection of symmetry may result from a fear that it will limit or destroy suggestive and implicit modes of expression. The viewer's imagination must be allowed full reign to pursue its own path to perfection." In groups of trees, rocks, or objects, odd numbers are preferred, as is asymmetric placement. Asymmetry also assists in *miegakure*. Central lakes or ponds are always in an irregular shape so that viewers can only see certain areas from any one point, and other areas will be hidden.

Simplicity. "Simplicity requires the elimination of all unnecessary elements and an attempt to attain a maximum desired effect with minimum means." Natural materials are preferred—bamboo fences and screens, stone accessories, natural log and thatched roof construction for buildings. One excellent tree or object is preferred to an abundance of lesser quality. "Predominantly monochromatic green shrubs and ground cover and a few choice specimen trees contrast favorably with the busyness of mass planting so common to Western landscapes."

Maturation, *koko*. *Koko* means aging accompanied by mellowness, with the implication that things improve over time. This is perhaps the most difficult principle to adapt to a home garden because it entails the commitment to care and maintenance over time, a concept foreign to our fast-paced, move-happy culture. Japanese gardens are meant to be enjoyed as they grow and age. "The Western concept of an 'instant garden' is denied in Japan," writes Kawana. "With time and proper care, the true beauty of the properly designed garden will manifest itself."

PHOTO BY JACK JENNINGS

Naturalness: using natural materials, such as stone and wood

Suggestion: intentionally obscuring a vista so the viewer is led onward

Asymmetry: utilizing odd numbers and irregular placement

Simplicity: selecting one choice specimen over many second-rate

Maturation: routine care over time will allow new beauties to emerge

PHOTOS BY BOB SRENCO

a snapshot in time

May 5, 1977

the late Koichi Kawana

Prior to 2002, most of the Garden's publications utilized black-and-white images, so event photography—even from recent eras—was shot in black-and-white. These photos were found in the archives and have never before appeared in print. They document Thursday, May 5, 1977: the formal dedication of *Seiwa-en*, the Garden's new Japanese Garden designed by Koichi Kawana, professor of landscape design at UCLA.

On this day, Garden donors and trustees, friends, committee members, and staff gathered. Garden Director Peter Raven and President of the Board Tom K. Smith, Jr., delivered opening remarks. The Most Reverend Taiichi Tsuyuki, head minister of the Konko Church, Los Angeles, assisted by the chief priest Takashi Murakami of the Shinto Shrine in Matsumoto, Japan, and by Mr. Toshitane Hirabayashi of Matsumoto, Japan, performed a Shinto ceremony of purification (*Onusa*), made a prayer (*Norito*), and an offering (*Saishu Tamakushi*). Fujima Kansumi performed a sacred dance called *Kimigayo* or "eternal blessing." Many visiting dignitaries made remarks, including his Excellency Fumihiko Togo, the Japanese Ambassador to the U.S.

For the next three days, the Missouri Botanical Garden was the center of the "most intensive public attention in its history," as thousands of visitors took part in the celebrations. Koi fish flags were hung on the flagpole outside City Hall and Mayor James F. Conway proclaimed it "Japanese Garden Week." Festivities included some of the same beloved activities still offered at the annual Japanese Festival: performances by taiko drummers and traditional dancers, tea ceremonies, and art exhibits.

At the Japanese Garden opening ceremony, May 5, 1977:

Traditional Japanese dancers perform a sacred dance.

Visiting dignitaries from as far away as Japan included the mayor of Suwa, the Japanese sister city of St. Louis.

At the Shinto ceremony of blessing, the officiant tossed confetti.

Garden Director Peter Raven with the Japanese Ambassador to the U.S. Fumihiko Togo and his wife.

Crowds numbered in the thousands during all four days of the opening celebration.

Above: The Japanese characters for Seiwa-En.

volunteer spotlight

PHOTO BY BETH HAINES

Joyce Driemeyer

"I've been a member of the Garden since I moved to St. Louis a million years ago," laughs Joyce Driemeyer. Even when her family moved to Hong Kong for several years, they still kept their Garden membership. Having studied pharmacology, and an avid chef, Joyce developed an interest in medicinal herbs and joined the St. Louis Herb Society in 1969. She served as president in the 1970s and oversaw the expansion of the Herb Garden to include medicinal and commercial herbs such as dye plants. Her own landscape architecture business, started 25 years ago, is still going strong, though recent health concerns have slowed that enterprise somewhat. A Master Gardener since 1986, Joyce still volunteers once a week at the Garden's Answer Service. "Her contributions to the Garden are so many, so varied…where to start?" says Answer Service Manager Chip Tynan. "Joyce is a an expert, a pro landscape architect. She's calm, classy, and very friendly and helpful. She's an invaluable addition to our team." There's a place for your talents at the Garden; a wide range of volunteer opportunities are available. For more information, call Jackie Juras at (314) 577-5187.

PHOTO BY JAMES TRAGER

Restoration volunteers gather seed at the Shaw Nature Reserve.

Operation Restoration

Shaw Nature Reserve seeks motivated three-season volunteers for ecological restoration projects. Volunteers begin with seed-collecting Saturdays in fall, then help clean up brush and tree thinnings. During winter, volunteers help sow new stretches of tall-grass prairie, glade, or woodland with seeds gathered earlier. In spring, weeding and planting projects take precedence. "Only a tiny fraction of the biological diversification and beautification at the Reserve could be accomplished by staff alone," says Restoration Biologist James Trager. "Only the many hours of hard work by volunteers make it possible." If you would like to become a part of the restoration team, contact Barb Troutman at (636) 451-3512.

PHOTO BY DENICE WELLBROCK

Volunteer teacher-naturalists educate young visitors at the Shaw Nature Reserve.

Part Teacher, Part Naturalist

Do you have what it takes to become a Teacher-Naturalist? Teacher-Naturalists volunteer to teach outdoor classes at the Shaw Nature Reserve to schoolchildren of all ages. That might mean teaching students how to collect sap from maple trees on a cold February day…or spending hot July nights in a teepee for a student "Lewis and Clark" adventure. Teacher-Naturalists possess a keen willingness to cultivate and share their passion for the great outdoors with the students and families they teach. Twenty-five people have completed the training so far, helping to serve over 10,000 kids every year. If you are interested in becoming a Teacher-Naturalist at Shaw Nature Reserve, contact Denice Wellbrock at (636) 451-3512.

the paw paw

PHOTO BY BETH HAINES

A Paw paw tree laden with fruit this summer at the Missouri Botanical Garden. Right: A child hoists an enormous fruit from a tropical relative of the Paw paw.

"It tastes a bit like guanábana." Huh? "Somewhat similar to a cherimoya." George E. Schatz, a Curator in the Garden's Madagascar program, is trying to describe a fruit native to Missouri that most folks have never heard of, comparing it to other fruits in its family, *Annona muricata* and *Annona cherimola,* respectively. "Its consistency is like banana, but the taste is closer to pineapple. They are delicious!"

Asimina triloba, or Paw paw, is a member of Schatz's specialty—the Annonaceae, or Custard Apple family. "It's a fascinating family—primitive, ancient, fragrant, almost exclusively tropical—there are 2,500 species worldwide." Perhaps the most famous member is Ylang-ylang (*Cananga odorata*) whose flowers yield the base oil in Chanel No. 5 and other of the world's most exclusive perfumes.

Paw paw, sometimes called Indiana Banana, may not sound as exotic—and it's not. It's a down-home native with many examples to be seen at both the Garden and Shaw Nature Reserve. As the only temperate member of an otherwise tropical family, Paw paw can withstand frost but nevertheless bears a family resemblance. "It looks so tropical…with really big leaves, purple flowers, and clusters of green fruits."

Native Americans used the web-like inner bark of the Paw paw for repairing fishnets and garments. They also made a yellow dye from the pulp of the ripened fruit. The bark has recently been found to contain substances with pesticidal properties. But it's the fruit that drives people crazy.

"They're very creamy and amazingly fragrant. They make great cake or bread and ice cream." Fruits begin to ripen in late August, but you won't often find them in the wild. "'Possums and raccoons love them. They practically wait beside the tree for the day the fruits ripen." Paw paws have not been developed commercially because of their extreme fragility: the skin is very thin when ripe and bruises easily. For fans of the fruit, your best bet might be to plant some.

The tree thrives in moist bottomlands, grows 15–20 feet tall, and often reproduces, like sumac, through cloning, spreading underground runners. Large "stands" of Paw paw may actually be one individual, genetically. Many members of the family are beetle-pollinated, but no scientist has ever witnessed Paw paw pollination to be sure. Once viewed as a nuisance, more people are now appreciating the tropical beauty of the plant. "With the rise of interest in native plants, the Paw paw is once again being viewed as an ornamental landscape plant—with the added benefit of edible fruit." Schatz has several growing in his backyard.

PHOTO BY BETH HAINES

George Schatz

*A native of Pittsburgh, PA, George developed an interest in botany through an early love of gardening. While studying horticulture as an undergrad at Cornell University, he traveled to Spain where he ate his first cherimoya—*Annona cherimola, *a strangely reptilian-looking fruit, which Mark Twain once described as "deliciousness itself!" When he looked the family up at home, George found it relatively poorly known to scientists and set out to become one of the world's foremost experts. After completing graduate school at the University of Wisconsin, he joined the Garden in 1987 and is currently a curator on the Madagascar program.*

G.E. Schatz's paw paw bread

Ingredients

½ cup butter
1½ cups sugar
2 eggs
1 cup mashed paw paw
2 cups flour
1 teaspoon baking soda
1 teaspoon baking powder
¼ teaspoon salt
½ cup buttermilk

Cream butter and sugar together. Add one egg at a time, beating till smooth. Blend in mashed paw paw.

In second bowl, stir flour with baking soda, baking powder, and salt. Add to paw paw mixture, alternating with buttermilk, stirring only to moisten. Transfer to greased loaf pan. Bake in 350° F. oven for about 1 hour until inserted toothpick comes out clean. Let stand 10 minutes. Remove from pan and place on cake rack to cool. Wrap to store.

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May–June 2003

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Nicole and Destiny visited the Garden in June. They are sisters seeking loving foster family and were featured in KSDK Channel 5's "A Place to Call Home" program. To find out more, call 1-800-FOSTER3.

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the shop at the Garden

4344 Shaw Blvd.
(314) 577-5137
Open daily
9 a.m. to 5:30 p.m.
All proceeds benefit
the Garden.

These hand-made decorative crafts reflect the extraordinary color and beauty of the African continent. The Garden has many ongoing research projects in this diverse region of the world.

Special offers and events!

September 6
Author Don Kurz and illustrator Paul Nelson will be signing *Trees of Missouri.* 1 p.m.

September 10
Jack Jennings will be signing his new book *Seasons* and the 2004 calendar. Members receive an additional 10% off Jack Jennings' book and calendar.12 to 3 p.m.

September 13
Children's story time *Red are the Apples*: "The morning is cool in the fall of the year. We explore our garden to see what is here." 11 a.m.

September 13–14
Jack Jennings signs *Seasons* and the 2004 calendar.
1 to 3 p.m.

SALE **September 17–21**
Bulb sale: Members take an additional 10% off all bulbs, bulb supplies, bulb books, and tools. *All bulbs for sale are featured in the Garden.

September 20
Children's' story time
The English Roses by Madonna, a story for young readers about friendship, jealousy, sleepover parties, and fairy godmothers. Robert Nix from the Rose Society will speak to the parents about putting your roses to bed for the winter. 1 p.m.

September 27–28
Meet Carol Greer, local artist, who will have an expanded selection of her pottery available for sale.

October 3–5
Del Sol jewelry trunk show

October 11
Children's story time *Yoko.*
"Yoko takes her favorite sushi for her school lunch." 11 a.m.

October 18–19
Pavla Rybar trunk show of handcrafted jewelry from The Czech Republic.
10 a.m. to 5 p.m.

October 24
Lecture, demonstration, and book signing by Dale Rohman, author of *Fantastic Wreaths.* 1 p.m.

SALE **October 25–26**
Members receive an additional 10% off all orchids, orchid pots and soil, and orchid books.

November 1
Trick or treat: Free Jelly Belly samples for kids of all ages. Come in costume—there'll be a contest! 1 p.m.

Children's story time 1 p.m.

The Gate Shop features local artists in the shop whenever possible. Whether pottery or paintings, the work of these artists will add a unique touch to your home and garden.

September 1–30: Photographs of the Japanese Garden by "Artist of the Month" Tom Tyler are for sale.

October 4–5: Painting demonstration by Barbara Cullen.

October 3–31: Prints and paintings by "Artist of the Month" Barbara Cullen will be for sale.

Food Tastings

Sep. 10: noon to 3 p.m.
Sep. 20–21: 1 to 4 p.m.
Oct. 4–5: 11 a.m. to 3 p.m.
Oct. 22, 29: 1 to 4 p.m.

Missouri Botanical Garden Library
3 1753 00311 3005

May–June 2003

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PHOTO BY JACK JENNINGS

Create a Legacy

By leaving a bequest to the Garden, you create a legacy that will benefit others for generations to come. If you have already included the Garden in your estate plans, we hope that you will share this information with us. We would like to express our gratitude and welcome you into the Heritage Society. Of course, your wishes for anonymity are respected.

Please call Judi Schraer, Planned Giving Officer, at (314) 577-9455 for further information and a complimentary brochure.

members' entry court

Bricks donated to the Members' Entry Court at the William T. Kemper Center for Home Gardening from June 1 through July 31, 2003.

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Elsevier Friends and Family

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Block and bridle cow milking at the 2002 Best of Missouri Market.

Don't miss this year's Best of Missouri Market

see page 7

Useful information

Events hotline: *Toll free 1-800-642-8842*	(314) 577-9400
Garden Café: *Daily, 9 a.m. to 5 p.m. (Wed. & Sat. from 7 a.m.)*	(314) 577-5196
Garden Gate Shop: *Daily, 9 a.m. to 5:30 p.m.*	(314) 577-5137
Horticulture Answer Service: *Weekdays, 9 a.m. to noon*	(314) 577-5143
Main switch	(314) 577-5100
Butterfly House:	(636) 530-0076
Children's Education:	(314) 577-5140
Communications:	(314) 577-0254
Composting Hotline:	(314) 577-9555
Continuing Education:	(314) 577-9441
Corporate Partners:	(314) 577-9513
Development:	(314) 577-5120
EarthWays Home:	(314) 577-0220
Facility Rental:	(314) 577-0200
Group Tours:	(314) 577-5140
Henry Shaw Society:	(314) 577-0858
Library:	(314) 577-5155
Membership:	(314) 577-5118
Planned Gifts:	(314) 577-9455
Senior Programs:	(314) 577-9506
Shaw Nature Reserve:	(636) 451-3512
Tribute Gifts:	(314) 577-0291
Volunteer Services:	(314) 577-5187

Hours
The Garden is open every day except Christmas, 9 a.m. to 5 p.m. (and Wednesday evenings in summer 2003). Parking is free.

Admission
- Free for members
- General admission is $7
  $3 for St. Louis City/County residents.
- Senior admission (65+) is $5
  $1.50 for St. Louis City/County residents.
- Children age 12 and under—free.
- Admission free to St. Louis City/County residents until noon every Wednesday and Saturday throughout the year, (except Japanese Festival and Best of Missouri Market).
- Special events may require an additional fee.

Editor: Elizabeth McNulty
Designer: Ellen Flesch
Cover photo: Jack Jennings

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Bulletin

November/December 2003

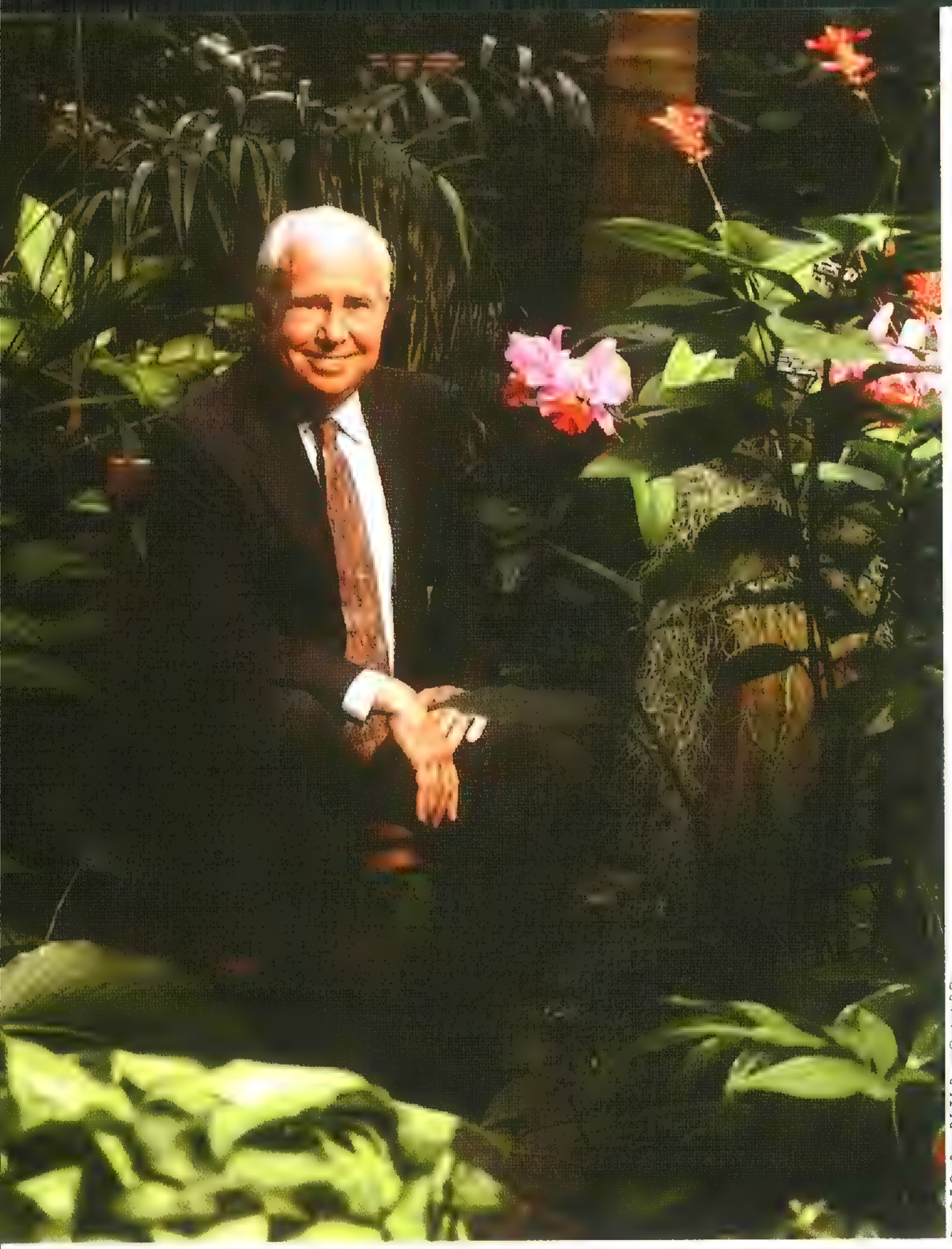

PHOTO BY PETER HOWARD

To discover and share knowledge about plants and their environment in order to preserve and enrich life

mission of the Missou

from the director...

Since its founding, the Garden's mission has introduced children to the importance of plants in their lives. In recent years, through the leadership of Dr. Luther Williams, the William T. Kemper Director of Education and Interpretation, we have refocused our efforts on the scientific literacy of children. Citizenship and full participation in our society depends on the ability of young people to understand the language of math and science and use those concepts in their daily lives, and this year the Garden has reached an important milestone toward enabling that goal.

In mid-October, thanks to the generosity of the William. T. Kemper Foundation and Commerce Bank, we dedicated the Commerce Bank Education Center, a headquarters for our Division of Education's activities. This new state-of-the-art facility will provide the nexus for the Garden Education Compact with 13 St. Louis public schools, working with teachers and students from pre-school through 12th grade. In addition, the Center will enable us to bring together and integrate our education activities at a variety of locations besides the Garden on Shaw Boulevard: the Sophia M. Sachs Butterfly House in Faust Park, the Shaw Nature Reserve in Franklin County, the Gateway Center for Resource Efficiency in Grand Center, and the Litzsinger Road Ecology Center. We are very grateful for the support that has allowed these activities to be strengthened, and we continue to seek resources to make them possible for more children throughout the region, including Southern Illinois, St. Charles, and beyond.

As we approach the holiday season, we increasingly turn to you and our other friends to enhance unrestricted giving to the Garden through the Henry Shaw Fund. The Fund supports every area of the Garden. It provides the support for day-to-day operations to help us meet your expectations for the most splendid horticultural displays and exhibits, for the education programs I mentioned, for our pioneering work in conservation and ecological restoration.

I am very appreciative for the manner in which our members extend themselves to enable the Henry Shaw Fund to reach its goals. As we enter the time of year for sharing, it is a great pleasure to share with you the wonderful treasures of our Garden.

Peter H. Raven

Peter H. Raven, *Director*

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Missouri Botanical Garden

editor's note...

All seasons are beautiful at the Garden, but autumn, the poignant swansong of the growing season, particularly so. One last hurrah—the lingering blooms on roses and water lilies from a spectacular summer, a luscious bouquet of autumn crocus in the Rock Garden, the spectacular beds in the Victorian Garden, a fiery burst of red-orange-yellow chrysanthemums beside the Linnean House—the leaves turn color and one day, drop. There's nothing like a clear blue-sky November afternoon at the Garden, so don't miss out. Pick up your copy of the new free guide "As the Leaves Turn," and get to know Shaw's trees while they're at their peak.

As Nature slows down, the Garden revs up with holiday cheer: Chanukah, Christmas, Kwanzaa. We have Carols in the Garden for four nights this year and a dazzling new holiday flower show—Gardenland Express—opening at Thanksgiving. Get the whole family together and be the first to see this amazing miniature wonderland with trains chugging throughout. Learn the secrets behind the beautiful displays of holiday plants in this issue when we interview senior greenhouse horticulturist Steve Wolff (pages 20-22). When you need a break from the hectic holiday season, head back to the Garden for a quiet stroll in Seiwa-en, *or some leisurely evening shopping at the Garden Gate Shop (see page 30 for details). Whether you're daydreaming in the Kemper display gardens about what to plant next spring, sharing lunch with friends in the Café, or contemplating the age of a mighty oak planted by Shaw, the Garden is here for you, our members, to enjoy to the fullest.*

Elizabeth McNulty, editor
elizabeth.mcnulty@mobot.org

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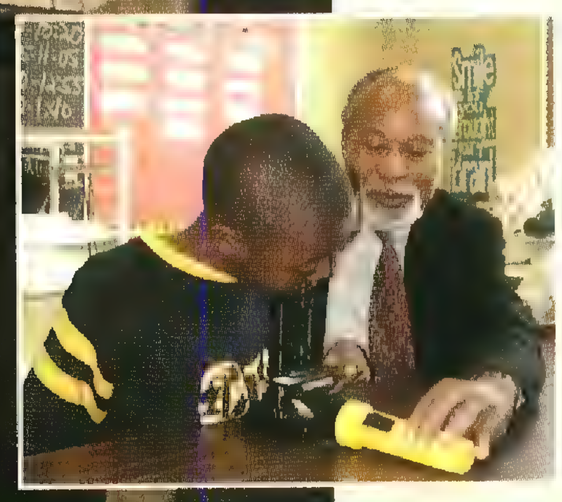


PHOTOS COURTESY THE EDUCATION DIVISION

Shown left: Director of Education, Dr. Luther Williams is hands-on in the classroom. Studies show that children absorb more through inquiry-based learning.

At right: the new Commerce Bank Education Center on Kingshighway and Shaw Blvd.

Far right: October 14, 2003 - (L. to R.) Joining hands at the dedication of the new Commerce Bank Education Center: Dr. Peter Raven, The Honorable Wm. Lacy Clay, Jr., Dr. Luther Williams, David W. Kemper, and Jack E. Thomas, Jr.

Stewards of the Earth

The Campaign for the Missouri Botanical Garden

On May 7, the Missouri Botanical Garden announced a $71 million drive to strengthen our critical role in establishing St. Louis as a world leader in the plant sciences and greatly enhance biodiversity and conservation around the globe. The campaign, which also targets support for the 79-acre St. Louis campus and the Shaw Nature Reserve in Gray Summit, already has raised in excess of $59 million and seeks an additional $12 million in private gifts by 2005. The funds will support Garden research, education, and the facilities required to enhance interpretation and display.

From the beginning, Henry Shaw conceived his Garden as both a place of beauty and a place of learning, a place where the "instruction of garden pupils shall be attended to." His last will and testament of 1889 provides for both the "propagation and cultivation of specimens of plants," and also the "promotion of science and knowledge." This year, the Garden enters a new era of educational stewardship with state-of-the-art facilities for expanded and improved math and science learning, and professional development.

As the many hundreds of members who participated in the sneak previews in October know, the Missouri Botanical Garden has now opened the new Commerce Bank Education Center. The $8 million building is a component of the Garden's "Stewards of the Earth" capital campaign, and lead donors for the project were The William T. Kemper Foundation and Commerce Bancshares Inc. Retrofitting and renovation began last fall at the site of the former R&F Spaghetti plant.

"When Henry Shaw opened the Missouri Botanical Garden nearly 145 years ago, education was one of the three main thrusts of his vision," says Dr. Peter Raven, director. "Today, the Commerce Bank Education Center affords another opportunity to fulfill Shaw's vision—how to help our children understand math and science and use them with skill in their lives. This understanding is critical to participating in an everyday life that is becoming more and more complex."

"This new enterprise builds on the Garden's worldwide success and is an investment in the future," says trustee David W. Kemper. "It is our hope that the Center will serve as a community meeting place dedicated to science."

The 24,000 square feet of instruction space houses a cutting-edge computer laboratory, classrooms, and laboratories designed to give students hands-on learning experience through inquiry-based science and math activities, such as quantifying the effects of light and temperature on plant growth, for example.

"The Center will truly transform the capacity of the Garden to provide challenging and contemporary science and mathematics education," said Dr. Luther Williams, the William T. Kemper Director of Education and Interpretation.

Modular classrooms may be combined or partitioned to create larger or smaller class spaces with videoconferencing capability. Computer lab technology includes the Geographic Information System (GIS), a mapping tool that links objects' descriptive and spatial information. The lab contains 34 computer workstations with individual printers, an instructor workstation, two data connectors, and a projection screen. Interconnectivity allows the Commerce Bank Education Center, the Dana Brown Overnight Education Center at Shaw Nature Reserve, and the Litzsinger Road Ecology Center in Ladue to link via computer with each other and to other schools, institutions, and instructional sites.

Lesson plans, supplies, assessment tools and other materials are available for instructors to use in their own classrooms from an innovative, expanded Teacher Resource Center housed within the Center. The Center also contains two fully-equipped science labs, a reading room, and conference room. Outstanding local teachers will be recognized on an "Educator of Excellence" tribute wall in the lobby.

Outside, several types of prairie grasses and Missouri native wildflowers have been started on the slope just north of the center. Seeded with native grasses like Blue stem, Indian grass, and Switch grass, this baby prairie will grow into flowering maturity in 3–4 years and feature gorgeous native wildflowers such as Purple coneflower, Butterfly milkweed, and Coreopsis. Visible from I-44, this prairie garden will highlight the beauty of low-maintenance native plants, which make exemplary highway plantings.

More than 6,000 pre-kindergarten through grade 12 students at 13 Garden Education Compact (GEC) schools will benefit directly from the center's math and science education resources. Launched in 2002, the GEC is collaboration between the Missouri Botanical Garden and St. Louis Public School District leaders to develop high-performing math and science curriculum in each classroom of Garden neighborhood schools.

Compact curriculum, instructional materials, and student assessment products will serve as models for effective science and math teaching and learning throughout the school district. GEC teachers will use the Center and the Garden's field resources for their professional development and bring their students for regularly scheduled field explorations and inquiry-rich classes offered throughout the school year. Students enrolled in the Garden's Summer Science Academy and other programs will also benefit from the new instructional resources.

Developed by the Sansone Group, the Commerce Bank Education Center will also contain the Garden's Information Technology Division and includes space available for lease by private plant science and other research and development companies.

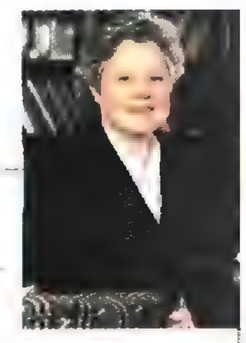


PHOTO BY TRENT FOITZ

You can help!

"This drive provides a unique opportunity to participate in the future of the Garden," says Director of Development Patty Arnold. For more information on how you can help, please contact her office at (314) 577-5120.

Inside...

Computer Laboratory
Devoted to GIS and other learning technologies, the computer laboratory serves as the core technology resource and anchor for instructional connectivity between the Garden's education sites, pre-K through 12 schools, and other institutions of science and mathematics instruction.

Teacher and Instructional Resource Center
Available packages and supplies include diagnostic curriculum and assessment tools with dedicated computers and on-line capabilities. The room also houses a small library.

Material Resource Room
The research and development unit of the Teacher Center, allowing for production and testing of resource and instructional materials.

Conference Room
Equipped with the latest information and communication resources, including teleconferencing capacity and a smart board, this area serves as the Education Division's primary conference room.

Classrooms Nos. 126, 127, 129, 130
These classrooms function either as four partitioned classrooms or as combined instructional spaces with modular student seating, computer workstations, and sink stations.

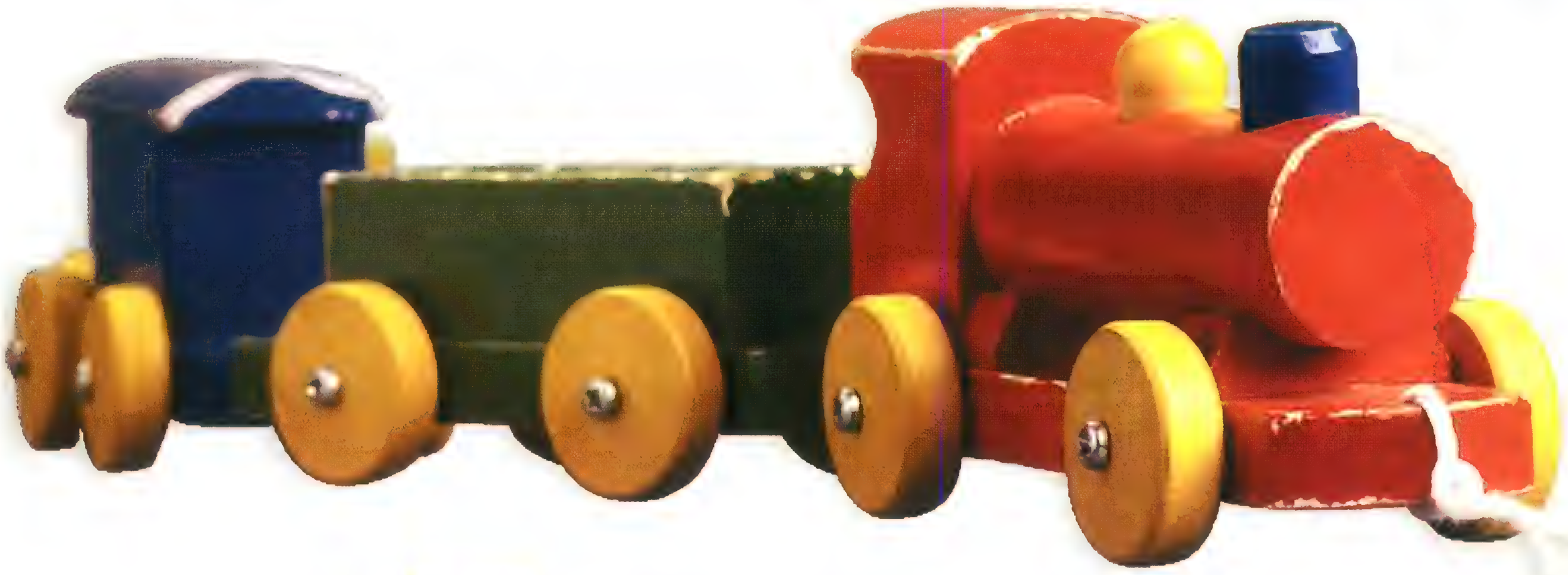
Science Laboratories Nos. 125 and 131
Used for intensive exploration of molecular, cellular, organic, and system components of plants and other living systems, the labs are equipped with experiment tables, electricity, and gas. No. 131 contains a hood for use in DNA extraction, separation, and analyses.

Individual naming opportunities are available. Call (314) 577-5120.

Gardenland Express

Holiday Flower and Train Show

Sponsored by Citigroup



A month full of holiday celebration at the Garden

as the

Don't hurry out of town, but do hurry down to the Missouri Botanical Garden and Tower Grove Park where autumn leaves are now at the peak of colorful display. Both institutions were founded by Henry Shaw, and during his lifetime, he had thousands of trees and shrubs planted. "As the Leaves Turn," a four-week celebration of the turning of the season, continues through Fri., Nov. 14. A free self-guided walking tour map describes 30 trees of historical, botanical significance and includes a driving tour of the 289-acre Victorian park. The Park offers leisurely 20-minute horse-drawn carriage rides daily for up to five passengers for $20. For more information, call the Tower Grove Park office at (314) 771-2679. At the Garden, don't miss Wizard Weekend on Nov. 1–2 (see right) and an outdoor "Taste of Autumn" on Spoehrer Plaza, Fri. and Sat., Nov. 8 and 9. See pages 19 and 21 for information on the changing leaves.

As the Leaves Turn

Sat., Oct. 18 through Fri., Nov. 14
10 a.m. to 5 p.m.
Free for members

Wizard Weekend

Soaring owls and disappearing rabbits, magical plants and wondrous wands…it's Wizard Weekend at the Missouri Botanical Garden! Children can fashion a wizard's cape and wand, learn about plant science and herbology, examine the physics of a broomstick flight, create "slime," and more. All activities are free for Garden members, who will also receive an additional 10 percent off children's toys and books all weekend long in the Garden Gate Shop.

Did you know that some plants have "magical" properties? Headmistress Amy Haake of the Garden's Education Division will demonstrate how ordinary red cabbage has the power to reveal secret ingredients in mixtures and solutions when she presents "Wizard Science." Can owls deliver mail or carry broomsticks? Find out as creatures like the barn owl and Eurasian eagle owl from the World Bird Sanctuary take flight. An actual magician will be on hand and all day long, families can make wizard crafts—including slime, wizard decorations, and magic wands.

Come to the Garden Gate Shop dressed in costume, and you could win a prize! Contests will be held for both children and adults. Pick up a free Jelly Belly™ sample and see if you can guess the flavor of each bean, or shop for special wizard merchandise. The Saturday Story Time will feature excerpts from *Harry Potter and the Sorcerer's Stone*.

Wizard Weekend

Sat. and Sun., Nov. 1–2
10 a.m. to 4 p.m.
Free for members

Schedule:

10 a.m.	Sonny the Magician *(Sat. only)*
11 a.m.	"Wizard Science"
noon	Owl Show
1 p.m.	"Wizard Science"
	Story Time *(Sat. only)*
2 p.m.	Sonny the Magician
3 p.m.	"Wizard Science"

All aboard the Gardenland Express

Welcome to the Missouri Botanical Garden's festive holiday flower and train show. Over 5,000 square feet of colorful blooms form the backdrop for a miniature landscape where a variety of theme trains chug round and round.

In a room filled with poinsettias, cyclamen, amaryllis, fragrant narcissus, begonia, peperomia, kalanchoe, and exotic anthurium, three 15-inch, "G scale" model trains travel through various landscapes. An Eastern passenger train picks up commuters while a freight train trundles through Middle America and a 19th-century style model steams across the Old West. Five-hundred feet of tracks cross through countryside, over trestles and bridges, through tunnels, along lakes and into forests. Scenic landscapes will range from snow-covered mountains and valleys to busy towns and villages, farms and hilly rural areas. Finely detailed buildings, cars, locomotives, people, animals, miniature waterfalls, streams and ponds, rocks, gravel, posts and fences will complete the landscape.

Additional large-scale choo-choos will delight young visitors. Bright, colorful, and animated, these trains include "Thomas the Tank Engine" and a LEGO™ train, as well as Christmas and circus themes. Thousands of tiny lights will illuminate the trains, houses, streets, and plants for nighttime viewing. In response to popular demand, the show will be open until 8 p.m. on all four evenings of Christmas Carols in the Garden (Dec. 4–5 and 11–12, see below), as well as during sale Fridays at the Garden Gate Shop on Nov. 28 and Dec. 19.
An animated locomotive surrounded by seasonal plants at the show entrance provides a great "photo op" to snap a family photo for your holiday greeting cards.

Contributors include AmerenUE and Antoinette's Jewelry.

Gardenland Express Holiday Flower & Train Show

Wed., Nov. 26 through Sun., Jan. 4
10 a.m. to 5 p.m., daily
10 a.m. to 8 p.m. during Carols in the Garden, Dec. 4–5 and 11–12 (Special admission rates apply), and the Garden Gate Shop Holiday Sales on Nov. 28 and Dec. 19
$3 (free for members)

Members Preview: See page 8 for details.

Holiday Wreath Exhibit

In conjunction with the flower and train show, the annual holiday wreath exhibit opens in the Ridgway Center. Featuring creations by the finest floral designers in the St. Louis area, these gorgeous wreaths offer inspiration to all home holiday decorators. Some wreaths are sold through a silent auction with proceeds benefiting the Garden. Participants in 2003 include: Bitter Sweet Botanicals, Jardin Flowers, MKS Designs, Inc, Studio P, Twigs & Moss, and Wild Flowers.

Christmas Carols in the Garden

Chestnuts roasting on an open brazier; jackfrost nipping at your nose; yuletide carols being sung by a choir…it's all here at Christmas Carols in the Garden. Musicians fill the Garden with sounds of the season, Santa will be on hand to hear holiday wishes, and all good little children will receive a special gift. Festive food and drink will be available for purchase, and the Garden Gate Shop will stay open to 8 p.m. for holiday shopping. In response to public demand, this popular event will run for two weeks in a row: Thurs. and Fri., Dec. 4–5 and 11–12.

Christmas Carols in the Garden

Thurs. and Fri.,
Dec. 4–5 and 11–12
5 to 9 p.m.
$8 ($4 for members),
$5 seniors,
$3.50 kids 3–12

Chanukah: Festival of Lights

Chanukah celebrates an ancient victory and the miracle that followed during which the lamps stayed lit for eight days although there was only enough oil for one night. The Garden's traditional Celebration of Lights kicks off the holiday early this year with festive music and a menorah-lighting ceremony. Special Chanukah merchandise will be available in the Garden Gate Shop.

Chanukah Festival of Lights

Sun., Dec. 14
Noon to 4 p.m.
Free for members

Kwanzaa Festival

Kwanzaa means "first fruits" in Swahili, and is the adopted name of a contemporary celebration of African-American heritage and culture. The Garden's celebration centers on the feast table of the harvest and celebrates the seven sustaining principles with storytelling, craft and jewelry workshops, and authentic African drumming and musical performances. *Kila kheri ya sikukuu*, as the saying goes in Swahili, "Best wishes for the holiday!"

PHOTOS BY DANE WILSON

Kwanzaa

Sat., Dec. 27
Noon to 4 p.m.
Free for members

just for members...

Deck the Halls

Don't miss our popular Holiday Decorating Members' Day. Barbara O'Brien and members of the Saint Louis Herb Society take us beyond traditional holiday design and show how to utilize herbs to great effect. Barbara demonstrates her "Five Minute Mantle," with fresh ideas for the focal point of your home holiday décor. Use seasonal and fresh materials to create a variety of holiday table settings, including Thanksgiving, as well as fabulous wreaths, wall, and door swags.

Members' Day
Holiday Decorating
Thurs., Nov. 13, 11 a.m.
Shoenberg Auditorium

All Aboard

Don't miss the annual members-only Holiday Flower Show kick-off. Garden members enjoy a special party and evening viewing of this year's new show, "Gardenland Express." Dozens of trains (G-scale models, for you train aficionados) travel through miniature landscapes and holiday floral displays, with all the usual beloved poinsettias and greenery. Cash bar, free musical entertainment, special holiday menu in the Garden Café, and of course festive holiday shopping in the Garden Gate Shop.

Members' Day
Holiday Flower Show Party
Wed., Dec. 3, 5 to 8 p.m.
Ridgway Center and Orthwein Floral Display Hall

Breakfast with Santa

He's making his list and checking it twice! Visit Santa when he stops at the Garden. Your ticket includes a visit with Santa and his helpers, a holiday craft to make, and breakfast in the Garden Café. Dine on waffles and scrambled eggs, with bacon, hash-brown potatoes, and biscuits, mini muffins and danishes. Beverages include white and chocolate milk, cranberry and orange juices, and freshly brewed coffee. Bring a pair of mittens or a child's hat to donate to a neighborhood charity. Tickets are $16 per person; children under two are free. Please call (314) 577-9500 for reservations. Seating in the Garden Café is on a first come, first served basis.

Members' Breakfast with Santa in the Garden Café
Sat., Dec. 6, 8 to 10:30 a.m.
By reservation only: please call (314) 577-9500.

Holiday Luncheon

The Tower Grove House Auxiliary will hold holiday luncheons on Saturday, December 8, and Monday, December 10 in Spink Pavilion at noon. Tickets are $20 and include attendance prizes and admission to the "Gardenland Express" Holiday Show. Advance reservations are required by Monday, December 1. Please call (314) 577-9500.

Holiday Luncheons
Mon., Dec. 8 or Wed., Dec. 10, noon
By reservation only: please call (314) 577-9500.

A Big Thank You

The 12th annual Best of Missouri Market was a great success with nearly 120 vendors offering specialty items from around the region. Once again, we extend our appreciation to the Market's co-chairs, Nora Stern and Ellen Dubinsky, the Members' Board, and all of our volunteers and staff. Special thanks to our sponsors: Central States Coca-Cola Bottling Company, Commerce Bank, Edward Jones, Equal Sweetener, and KMOX. We would also thank the Girl Scout Council of Greater St. Louis, Great Harvest Bread, Lord & Taylor, Ronnoco Coffee Company, Sachs Electric Company, and Fabick Power Systems.

(*Free gift*)

Nov. 5–9, Dec.10–14

Just in time for the holidays, take 20% off regular and senior membership prices during the November and December holiday sales in the Garden Gate Shop. On November 5–9 and December 10–14, shoppers at the Garden can purchase a regular $60 membership for $48 or a $55 senior membership for $44. As an additional special gift you will receive The Shaw House Cookbook, a historic collection of recipes from the golden era of St. Louis living. (Discounts are for on site sales only.)

Ring the Bells

New for our annual members-only holiday concert, the Garden offers the joyous sounds of the accomplished handbell choir, the Gateway Ringers. Caroling bells are a hallmark of the season, and this talented ensemble performs in the old English tradition with tens of hand-rung bells and chimes. Over a dozen musicians will serenade us, performing holiday music from around the world—a festive treat for adults and kids alike. Seating is first come, first served.

Members' Day
Holiday Concert
Thurs., Dec. 13, 1 p.m.
Shoenberg Auditorium

Holiday Lights Bus Tour

Join the Tower Grove House Auxiliary on a beautiful, fun-filled evening as we check out the best of holiday light displays by bus. On Tuesday, Dec. 16, the fun starts with a warm drink and holiday cookies at the Garden, where we'll enjoy the beautiful wreath display. The bus will then depart the Ridgway Center and return at 8:30 p.m. Cost per person is $35. Reservations are required by Sat., Dec. 8. Please call (314) 577-9500.

Holiday Lights Bus Tour
Tues., Dec. 16, 4:30 to 8:30 p.m.
Meet at Ridgway Center

membership benefits

Free admission to the Garden, including the Shaw Nature Reserve and EarthWays Home, for two adults and all children under age 18 for one year. Discounts on admission to Garden public events.

Free publications including the *Bulletin*, 6 issues a year filled with information and activities at the Garden, Shaw Nature Reserve, and Sophia M. Sachs Butterfly House, plus home horticulture advice from the experts at the Kemper Center for Home Gardening.

Flower show parties Previews of the annual holiday flower and orchid shows.

Monthly members' days Special programs presented exclusively for Garden members and their guests feature free tram rides, 10% off in the Garden Café, and special discounts in the Garden Gate Shop.

Discounts Members receive 10% off all purchases in the Garden Gate Shop, with annual spring, fall, and holiday sales of 20% off, plus special rates on selected educational courses.

Members' travel Special trips explore public and private gardens around the world.

Reciprocal admission to over 150 selected botanical gardens around the country.

Discounted subscription rate for *St. Louis Homes & Lifestyles*.

PHOTO COURTESY INTRAV, INC.

Ecuador and Galápagos Islands

Join us as we embark on a journey of learning and discovery that explores colonial Ecuador and the unique ecosystem of Darwin's enchanted Galápagos Islands. We'll begin in Quito, take scenic tours of the city and surrounds before flying to Baltra Island, where we will board the 90-passenger Santa Cruz for a four-day cruise of the Galápagos Islands. Whale watch during a sunrise cruise through Bolivar Channel, view the bird life along Darwin Lake on Isabela Island, marvel at the sheer number of marine iguanas on the island of Fernandina, and observe Galápagos tortoises on West Isabela Island. All meals, sightseeing, and shore excursions are included. Prices start at $2,595 plus airfare. An optional pre-trip extension takes you to Peru's Lima, Cuzco, and the fabled Incan ruins of Machu Picchu. Call the membership office at (314) 577-9500 for information.

development

PHOTO BY JACK JENNINGS

You can make a difference at the Garden today!

Every contribution to the Missouri Botanical Garden advances our mission "to discover and share knowledge about plants and their environment in order to preserve and enrich life." Henry Shaw would be very proud of the Garden that he founded here more than 140 years ago. It is a place of beautiful horticultural displays, world-renowned status as an institution of botanical research, and in accordance with Mr. Shaw's directive, a place that is exquisitely maintained "for all time" for the public benefit.

In order to continue maintaining the Garden and improving the services offered to members, we ask for contributions each year for the Henry Shaw Fund, our most important source for general operating support. Gifts to the Henry Shaw Fund extend education programs to a diverse audience, support critical research at home and abroad, and nurture the beauty of the Garden for the enjoyment of more than 700,000 visitors annually. Your personal gift will embody Henry Shaw's commitment to the community and the Garden.

To make a tax-deductible gift to the Henry Shaw Fund, please call Sharon Mertzlufft at (314) 577-9495.

Let's spend our golden years together

Help secure your future and the future of the Garden with a charitable gift annuity. A gift to the Missouri Botanical Garden can provide you with a guaranteed income for life and a significant charitable tax deduction. With a gift of appreciated stock, you may also eliminate capital gains tax on the transfer. Rates of return for a single life charitable gift annuity with the Garden range from five to over nine percent, based on your age. The chart below illustrates the potential income and tax benefits from a $10,000 gift.

For a free illustration of how a charitable gift annuity would benefit you, please call Judi Schraer, Planned Giving Officer, at (314) 577-9455.

Potential Benefits from a $10,000 Charitable Gift Annuity
For a Single Life Income Beneficiary

Age	Rate of Return	Annual Income
60	5.7%	$570
65	6.0%	$600
70	6.5%	$650
75	7.1%	$710
80	8.0%	$800
85	9.5%	$950

The Corporate Partners program strengthens the relationship between the Garden and the corporate community in the metropolitan region. Become a Corporate Partner today! For information, call Sharon Mertzlufft at (314) 577-9495.

We are pleased to recognize corporations who have recently joined, renewed, or upgraded their Corporate Partner membership.

Shareholder Level ($10,000)
Maritz Inc.

Supporter Level ($1,000 to $4,999)
McCarthy Building Companies, Inc.

A special gift for the hard-to-shop-for

Customized bricks located at the Kemper Center for Home Gardening are a joy to treasure for a lifetime. Both engraved clay bricks ($300) and bronze "signature" bricks ($1,000) are available. Bricks ordered during the holidays will be "planted" in spring, just in time for a visit to admire the beauty of all the bulbs and vernal flowers. For more information, call Kathleen Kellerstrass at (314) 577-0874.

Shaw Nature Reserve

Established by the Missouri Botanical Garden in 1925, the Shaw Nature Reserve is in Gray Summit, MO, 35 miles west of St. Louis on I–44 (Gray Summit exit 253). In addition to the Whitmire Wildflower Garden, the 2,400-acre reserve is also home to the restored Bascom House (1879) and 14 miles of hiking trails. Grounds are open daily 7 a.m. to one-half hour past sunset. For information, call (636) 451-3512.

PHOTO BY LYDIA TOTH

Families inspect the contents of their nets during a class on pond ecology.

Brush Creek Restoration

You might not recognize the name, but chances are, if you've visited Shaw Nature Reserve, you've walked this well-traveled path. Brush Creek Trail is the main path wending from the Visitor Center to the Bascom House and Whitmire Wildflower Garden. From there, the trail continues down to the Maritz Trail House and connects with trails heading through a variety of prairie/wetland/glade ecosystems and the Meramec River. Along the way, the path crosses Brush Creek (hence the name), but until recently, there were only steppingstones across and careful navigation was required. Not only did this present a challenge to children, the elderly, or anyone not sure on their feet, the stones were not passable during high water.

Through the generosity of Mary Jane Fredrickson, construction began in September on a new bridge that will allow visitors to cross the creek easily even in high water. It will be wheelchair accessible and a wonderful benefit to all walkers. In addition to the bridge, invasive exotic species along the Brush Creek Trail corridor are being removed and native woodland grasses and wildflowers restored. Bench sites and interpretive signage will also be developed along the trail. Crisp November days are ideal for hiking the paths of the Nature Reserve. We hope you'll enjoy this wonderful new improvement on your visit.

Opportunities for Family Fun

by Lydia Toth, *Manager of Educational Services at Shaw Nature Reserve*

Opportunities for family fun abound at the Shaw Nature Reserve, just 30 miles west of St. Louis in Gray Summit, and late fall is the perfect time to explore. Grab a "Treasure Map" and navigate the wilderness. Use a test kit to determine the water quality of a pond and become a scientist. Hike through grasses that are taller than you are. Use a special key to unlock mystery boxes along a forest trail. These adventures and more await you…

With its 14 miles of hiking trails winding through tall grass prairie, upland and bottomland forest, wetland, meadows and glades, the Nature Reserve has something for everyone. Want a workout with your child? Heavy-duty jogging strollers are also available for rent at the Visitor Center. Parents and grandparents may choose to create their own nature hike or, for a more structured activity, check out one of the new activity pack rentals. To ensure availability, you may want to call ahead to reserve a pack at (636) 451-3512.

There are three packs for a variety of ages, and more are in the works:

- *Little Acorn Family Trail* (ages 3–6): features nine mystery boxes located along a short trail. Each box is unlocked with a special key to reveal the hands-on activities inside.
- *Freddy the Fish* (ages 6 and up): provides your family with all of the equipment necessary to determine whether Wolf Run Lake has everything that Freddy needs to survive. A take-home booklet guides you through collecting and identifying pond organisms, as well as testing the quality of the water.
- *Brownies Are Eco-Explorers* is designed for young scout troops and other small groups. Both the Freddy and Eco-Explorer activities require approximately one mile of walking.

Many family classes are available at the Shaw Nature Reserve through the Garden's Adult Education program. Check out the spring 2004 offerings when the brochure arrives in the mail in January. Past classes have included exploring a local cave, observing nighttime insects using black lights, and orienteering. Spend a weekend at the new Dana Brown Overnight Education Center learning about Missouri ecosystems and participate in holiday events, arts and crafts like flower pounding, and much more.

Whatever your mode of travel is—hiking, biking, or cross-country skiing—and no matter what the season, Shaw Nature Reserve is a fun and fascinating place to spend time with your family!

EarthWays Home

PHOTO BY DALE DUFER

Energy Murals at the EarthWays Home were created by artist Sarah Linquist to illustrate renewable sources of heating, cooling, and electrical production.

Deep Heating

Geothermal heat pumps don't make heat, they move it—from the Earth into buildings when the atmosphere outside is cold, and out of buildings into the ground in hot weather.

Heat radiated from the Sun and absorbed by the Earth is transferred to a mixture of water and ethanol as this fluid is electrically pumped through underground closed loops of pipe. The heat in the circulating liquid is then transferred to a system to help warm a building space. In summer, the solar heat trapped within the building goes on a reverse course, to be transferred back to the ground.

The EarthWays Home in Grand Center demonstrates how the thermal exchange in a ground-source, or geothermal, system efficiently maintains a comfortable home or workplace environment. The Earth's constant subsurface temperature is the basis for climate control in the first floor and basement of the 4,000 square foot building. Less equipment is required because furnace and cooling functions are combined in one unit. Ground-source heat pumps are quieter than conventional systems and they improve humidity control. Consumption of electricity and natural gas are substantially reduced, along with your utility bills.

A geothermal installation costs more than conventional systems, but operating efficiency will pay back that initial investment within two to 10 years. Some states offer low-interest loans for purchase of super-efficient Energy Star-rated equipment, which will yield maximum resource savings. Systems are also available that double as water heaters, providing hot water for free during summer months, when excess heat from the pump's compressor is routed to the water tank; winter water heating costs are roughly half of standard equipment. Ground-source system contractors and equipment dealers are available in the St. Louis region, including specialists with both home and commercial systems.

Visit the EarthWays Home to learn more about geothermal heat pumps and many other energy efficiency opportunities. Group tours may be scheduled online at www.mobot.org/gatewaycenter/earthways, and public tours are offered during Open House Weekends, the third Friday and Saturday of each month. Check the *Bulletin* calendar or call (314) 577-0220 for details.

A division of the Garden since 2000, the Gateway Center for Resource Efficiency is headquartered in the EarthWays Home, a century-old Victorian house renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. Located in the historic Grand Center theater district at 3617 Grandel Square. Tours are available on the third Friday and Saturday of each month. Call (314) 577-0220.

Beat the Chill – Cut Your Bill

The Gateway Center for Resource Efficiency is now working with the U.S. Department of Energy and the Missouri Department of Natural Resources' Energy Center to initiate the Home Performance with Energy Star program in St. Louis. Soon local contractors will be trained through Gateway Center's partnership in this program to provide residential energy audits. In the meantime, there are many things a homeowner can do to boost comfort while cutting utility costs this heating season. Here are just a few examples:

- Keep draperies and shades open on south-facing windows during the day to capture warmth from the sun, and close them at night to minimize heat loss.
- Fireplace flue dampers should be tightly closed when not in use.
- Water heater jackets and pipe wrap save energy and money.
- Proper insulation of attics, walls, floors, and basements will increase comfort and reduce heating fuel costs by up to 30 percent.
- Caulking, sealing, and weather stripping all seams, cracks, and openings to the outside can save 10 percent on your energy bill.
- Storm windows can double the efficiency of single-pane windows. A less costly option is installing window films widely available at hardware stores.
- Learn more by touring the EarthWays Home on Open House Days—see the *Bulletin* calendar for details.

PHOTO BY MARK DEERING

Butterfly House

A division of the Garden since 2001, the Sophia M. Sachs Butterfly House features butterflies in free flight inside a glass conservatory as well as outdoor habitats. Located in Faust Park, Chesterfield, MO, the Butterfly House is open Tuesday through Sunday 9 a.m. to 4 p.m. (5 p.m. in summer). For information, call (636) 530-0076.

The Spectacular Spineless Species series continues at the Butterfly House. On display are many fascinating arachnids from around town and around the world. All spiders and scorpions are venomous, but only a few pose any potential threat to humans. Visitors will be able to see Missouri's only dangerously venomous spiders, the Black Widow and Brown Recluse, as well as giant tarantulas and scorpions from more exotic locations. Be sure to catch the world's largest scorpion from Malaysia, as well as the bird-eating spider, measuring a whopping nine inches in diameter. Don't delay because this series ends soon. Catch, we mean, view these beauties now through Sun., Nov. 30.

First in the Nation

In September the Sophia M. Sachs Butterfly House and Education Center, a division of the Missouri Botanical Garden, became the first butterfly house in the nation to be granted accreditation by the American Zoo and Aquarium Association (AZA). In achieving accreditation, the Butterfly House joined a team of zoos and aquariums nationwide who share a common mission.

Accreditation is granted after a rigorous investigation following the initial application and a three-day inspection by a team of zoo and aquarium professionals. The inspecting team observes all aspects of the facility's operation in areas such as collection care (including living environment and daily enrichment), keeper training, safety for animals, staff, and visitors, educational programs, conservation efforts, veterinary programs, financial stability, risk management, visitor services, and other areas.

"We are very proud to be the first butterfly house recognized by the AZA," says Joe Norton, executive director of the Butterfly House. "This recognition of the extremely high standards we maintain will allow us to continue our conservation and education efforts as part of a global collaborative team."

"Zoos and aquariums in North America are continually evolving and reaffirming their commitment to animal care, professionalism, ethics, conservation, and education," says Sydney J. Butler, executive director of AZA. "They are enriching the lives of their community, and the Butterfly House is no exception."

Once granted, accreditation lasts for five years, at the end of which the institution must undergo the same investigation again to ensure it meets ever-rising industry standards.

"The accreditation of the Sophia M. Sachs Butterfly House, the first such action by the AZA, is an affirmation of the extraordinary foresight of many who worked hard to build this magnificent facility for the people of St. Louis," says Dr. Peter H. Raven, Garden director.

Big Thank You

Butterfly kisses to all the organizers of September's LadyBag Luncheon, and especially luncheon chairwoman Judy Harris. It was a smashing success! Special thanks to our sponsor Wells Fargo Home Mortgage.

Camp Bug-a-loo

Why go buggy at home with the kids, when the kids can go buggy at the Butterfly House? This brand-new program is for cool kids ages 2 to 4 (and their cool parent or guardian). Join us in a jam-packed hour of arts and crafts, math and science, music, storytelling and play, in a new bug-themed program each month. Registration is required, so call now: (636) 530-0076, ext. 13.

Dec. 2, 9; Jan. 13, 27; Feb. 10, 24
9:30 a.m. to 10:30 a.m.
Cost: $10 per class
($8 for Garden members)
Includes admission, program, and materials for one adult and one child.

The Little Shop Around The Corner

Members read about it first! New for 2004, the Garden plans to launch the Little Shop Around The Corner, an upscale resale boutique of garden-related and other antiques. Located at the intersection of Shaw and Vandeventer, near the burgeoning Garden retail district, the Little Shop Around The Corner will feature artwork, accent furnishings, garden ornaments, silver, china and porcelain, vintage jewelry, and other *objets d'art*. All proceeds from sales will benefit the Garden, and the Shop will be overseen by Jan Simons, the Garden's Director of Retail Services. The Garden Gate Shop will continue to operate on Garden grounds as a premier retailer of the world's finest gifts, plants, books, and garden accessories.

If you are downsizing from a house to a condo or just redefining your style, please consider this additional way to support the Garden by donating items to be sold at the Little Shop Around The Corner. We seek high-quality items in excellent condition, from cherished collectibles to garden sculptures and art to large-scale furnishings. We cannot accept clothing, books, or electronics. Donations are being accepted now, and pick-up service is available for high-quality large items (furniture, etc.). Donations are tax deductible. Should you have any questions about how or what to donate to the Little Shop Around The Corner, please call shop manager Judy Sokolik at (314) 361-8466.

News of the Café

As members might already know, the Garden Café was recently named one of the city's "Best Kept Secrets" by *Sauce Magazine*. What members might not know is that the Garden Café has updated their menu for fall, adding seasonally appropriate items and featuring new specials each day. Familiar favorites like the Spinach and Artichoke Panini and Smoked Salmon Salad are still there, but this autumn and winter look for delicious and popular additions like the vegetarian Portabella Mushroom Hummus Wrap, or the zesty, yet heart healthy, Grilled Turkey Bratwurst. For blustery winter days, enjoy the new Ham and Black-eyed Pea Soup, served with a wedge of cornbread, or the Turkey and White Bean Chili. This hearty, healthy fare makes the Café the perfect place to meet friends before exploring the Garden this fall. Also new this season, the Café is offering Earth & Sky blend, a Rainforest Alliance-certified sustainable coffee. So whether you're enjoying a quick cup and a muffin before a walk for health, or meeting friends for a meal, don't miss the Café's new autumn offerings.

volunteer spotlight

PHOTO BY ELIZABETH MCNULTY

Lola Reed

While most kids avoid their chores if at all possible, Lola loved hers. Growing up in St. Louis, her father had a serious vegetable garden in the backyard where she often pulled weeds and picked produce. "In the garden, I could get away from my brothers and sisters, and just think." It was there that she learned that okra produces big, beautiful yellow flowers. She learned about plant diversity too. They grew not one, not two, but four types of greens—mustard, turnip, collard, and Swiss chard. "My father loved to experiment, he was always trying something new."

So it's no surprise that when she grew up, Lola went to work for a lawn and garden company. In 1998, she completed the Master Gardener training program and has been "hooked" ever since. "When you walk through the Garden, anything that's on your mind takes second place to the beauty around you." Lola volunteers with the Youth Gardening program and is currently one of the co-editors of the Master Gardener Newsletter. "She brings real dedication to everything she does," says Dr. Steve Cline, William T. Kemper Manager. "She's friendly, hardworking, and a real asset to the Master Gardener program." There's a place for your talents at the Garden; a wide range of volunteer opportunities are available. For more information, call Jackie Juras at (314) 577-5187.

Peter Raven Awarded Cosmos Prize

The 2003 Cosmos Prize, one of Japan's highest honors, has been awarded to Garden Director Dr. Peter Raven. He was honored at a ceremony in Osaka, Japan on October 20, where he gave a lecture at a symposium held in his honor. The medal he received will be on display at the Garden. Look for updates in the *Bulletin*.

The Cosmos Prize recognizes the endeavors of researchers and scientists worldwide who support a holistic global perspective, a long-term vision, and the interdependent relationship among all living organisms on Earth. Raven is being honored for his "outstanding research work and achievement concerning all life phenomena on Earth embodied in flowers and greenery."

For over three decades, Raven has worked at the Garden to develop a team of more than 50 Ph.D. botanists who conduct research in some 30 developing countries around the globe. A passionate advocate for preserving biodiversity and promoting sustainability, he has led botanists in collecting about 200 new plant species every year under international protocols, and initiated training programs in most of the countries in which they work, to develop an indigenous scientific workforce where nearly none existed in the past. He has written extensively about his concern of plant extinctions that are increasing at an exponential rate and the means of averting them.

Bob Coulter Honored

Manager of curriculum development in the Garden's Education Division, Bob Coulter has been honored by American Forests with a 2003 Global ReLeaf Award. One of three recipients nationwide, Coulter was awarded for his efforts in bringing green engineering to area students through the Garden's "Mapping Urban Forests" program.

After spending more than a decade teaching elementary math and science, Coulter joined the Garden in 1998 to develop "Mapping the Environment." The program uses the geographic information system (GIS) to study the environment and offers training in the software to interested teachers. A subset, "Mapping Urban Forests" educates St. Louis public school students about geography and the environment while incorporating math skills, and will serve as the basis for a national student program of urban forest monitoring to be initiated by American Forests.

"The work for which Bob is being honored is a sample of his substantial, high quality, and diverse contributions to technology-enabled science education," said Dr. Luther S. Williams, the Garden's William T. Kemper Director of Education and Interpretation.

PHOTO BY ELLEN FLESCH

The Millstone Fountain in the St.Louis Society Herb Garden is a gift from the Koerner, Leuchtman, Raether, and Scott Families in memory of Dottie Raether, an avid member of the Society.

Christmas Tree Time

Evergreens have been used as a symbol of life and hope in winter since ancient times. Romans decorated with evergreen boughs during Saturnalia, the winter festival in honor of the god of agriculture. Druids used holly to signify eternal life, and Vikings to symbolize the return of the sun god. Usage of an evergreen tree for Christmas is thought to have evolved in the 16th century, but wasn't popularized in the English-speaking world until Queen Victoria's German husband, Prince Albert, brought one to Windsor Castle in 1834. Today, there are approximately 33 million cut trees sold in North America every year during the holiday season. Tree farms supply these trees, and according to the National Christmas Tree Association, for every tree harvested, two seedlings are planted in its place the following spring. The best-selling varieties are balsam fir (*Abies balsamea*), Douglas fir (*Pseudotsuga menziesii*), Fraser fir (*Abies fraseri*), noble fir (*Abies procera*), Scotch pine (*Pinus sylvestris*), and Virginia pine (*Pinus virginiana*).

If you choose to celebrate the season with a real tree, here are some tips to lengthen the enjoyment:

- Shake or bounce the tree on its stump to test for freshness. You should not see an excessive amount of green needles fall to the ground.
- Make a fresh, straight cut across the base of the trunk (about a quarter inch up from the original cut) and place the tree in a tree stand that holds a gallon of water or more.
- Keep the tree stand filled with water. A seal of dried sap will form over the cut stump in four to six hours if the water drops below the base of the tree, preventing the tree from absorbing water later when the tree stand is refilled. If a seal does form, another fresh cut will need to be made.
- A tree will absorb as much as a gallon of water or more in the first 24 hours and one or more quarts a day thereafter. Water is important because it prevents the needles from drying and dropping off and the boughs from drooping. Water also keeps the tree fragrant.
- Recycle your tree. Christmas trees make great mulch, so bring your holiday tree to the Garden's drop-off location. Details to come in the next issue of the *Bulletin*, or call (314) 577-9555 for more information.

calendar of events

November

Now to Sat., Dec. 13
Classes and tours for adults and families on topics from plant care and landscape design to cooking, art, botanical crafts. For information, visit www.mobot.org/gardeninghelp or call (314) 577-9441. $

Now through Wed., Dec. 31
2004 calendar display.
9 a.m. to 5 p.m. RC.
Calendars available for purchase for $12.95 in the Garden Gate Shop. Proceeds support the Missouri Botanical Garden.

Now to Jan. 2004
Classes and walks for adults and families at Shaw Nature Reserve. Single, multiple, and overnight sessions; tours, hands-on crafts, and more. For information, call (636) 451-3512. SNR. $

Sat. & Sun., Nov. 1 & 2
"Wizard Weekend" returns! Owls in flight, magic tricks, botanical crafts, fun for young wizards and "muggles" alike. 10 a.m. to 3 p.m. RC.
Costume contest for kids on Saturday sponsored by the Garden Gate Shop, offering free Jelly Belly™ samples and Story Time at 1 p.m.

Sun., Nov. 2
"Anansi Spider Tales." Bobby Norfolk tells African folktales about Anansi the Spider. 1 p.m. BH. $

Wed. to Sun., Nov. 5-9
**Members only: Preholiday Sale in the Garden Gate Shop. Members receive 20% off everything in the store. During the sale, regular and senior gift memberships will also be 20% off. (onsite sales only)

Sat., Nov. 8
Story Time, for children ages four to 10. Children under age four must be accompanied by an adult.
11 a.m. GGS.

Outdoor St. Louis: Talks and book signings. Brett Dufur signs copies of his books: *The Complete Katy Trail Guidebook, The Katy Trail Nature Guide* and *All New Show Me Mountain Biking, the Complete Bike's Guide to Missouri.* Margo Carroll signs copies of *Cycling St. Louis.* Al Montesi, signs books from the *Images of America Series.* 1 to 3 p.m. GGS.

Garden Gate Shop "Featured Artist" for the month of November, Janet Mason offers a painting demonstration. 1 to 4 p.m. GGS.

Thurs., Nov. 13
**Members only: Holiday Decorating with the Saint Louis Herb Society. Barbara O'Brien shares her ideas for holiday décor, including the "five-minute mantle." 11 a.m. RC.

Jack Jennings will sign his book Seasons and the MBG 2004 calendar. 11 a.m. to 2 p.m. GGS

Fri. & Sat., Nov. 21 & 22
Open House Days at the EarthWays Home, Grand Center. Tour this century-old Victorian home renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. Third Friday and Saturday of each month. Tours begin at 10 a.m., 11 a.m., noon, and 1 p.m. $2 (free for Garden members). 3617 Grandel Square. Call (314) 577-0220. EH.

Tues., Nov. 25
Jack Jennings will sign his book Seasons and the MBG 2004 calendar. 11 a.m. to 2 p.m. GGS

Nov. 26 through Sun., Jan. 4, 2004
"Gardenland Express," annual holiday flower show features G-scale trains traveling through miniature scenic landscapes, children's theme trains, hundreds of poinsettias and other colorful seasonal plants and flowers, and a special photo opportunity area for holiday snapshots. Admission plus $3 special exhibit charge (free to members). 9 a.m. to 5 p.m. RC.
Holiday wreath exhibition features unusual, magnificent wreaths created by some of the area's finest floral designers. Some wreaths are sold through a silent auction, with proceeds benefiting the Garden. RC

Nov. 28
Gardenland Express Holiday Flower and Train Show and the Garden Gate Shop will stay open until 8 p.m. for extended holiday evening hours.

Give the gift of fun to a Senior

Programs for seniors are held at the Garden throughout the year. To register, please call Carol Bauman at (314) 577-9506.

All Botanical Wreath Making
We will use fresh greenery to produce a fragrance to get even Mr. Scrooge in the mood for the holidays! Wed., Dec. 3 or Fri., Dec. 5 or 12. 10 a.m. to 12 p.m. or 1 p.m. to 3 p.m. $6

Holiday Gift Making
For the person that has everything, or to spruce up your home for the holidays, we will be making holiday potpourri and fireplace smudge sticks! Can you smell it now? Wed., Dec. 10. 10 a.m. to 12 p.m. or 1 p.m. to 3 p.m. $10

Fresh Floral and Evergreen Wreath Making
Using fresh greenery for an evergreen scent, embellish your wreath with bright beautiful red carnations for the most festive of wreaths! Wed., Dec. 17, 10 a.m. to 12 p.m. or Fri., Dec. 19, 10 a.m. to 12 p.m. or 1 p.m. to 3 p.m. $10

December

Wed., Dec. 3
**Members only: Holiday Flower Show Members' Preview. All aboard the Gardenland Express. Cash bar, musical entertainment, special holiday menu in the Garden Café, and of course holiday shopping in the Garden Gate Shop. 5 to 8 p.m. RC.

Thurs. & Fri., Dec. 4–5
"Christmas Carols in the Garden." Carolers and musicians fill the Garden with the sounds of the holiday season. Santa will be on hand, too! 5 to 9 p.m. RC and throughout the Garden grounds. $8 adults, $5 seniors, $4 members, $3.50 kids 3–12. The Garden Gate Shop will be open to 8 p.m. for holiday shopping. All proceeds benefit the Missouri Botanical Garden.

Sat., Dec. 6
**Members only: Breakfast with Santa. Includes a visit with Santa and his helpers, a holiday craft to make, and breakfast in the Garden Café. Tickets are $16 per person; children under two are free. 8 to 10:30 a.m. By reservation only. Call (314) 577-9500.

Story Time, for children ages four to 10, features *The Little Engine That Could.* Children under age four must be accompanied by an adult. Noon and 1 p.m. GGS.

Sun., Dec. 7
Shaw Neighborhood Holiday House Tour. Begins at Beauvais Manor across from Tower Grove Park at Grand Avenue.
11 a.m. to 5 p.m. Tickets $15 ($12 in advance from Metrotix).

Mon., Dec. 8 or Wed., Dec. 10
Tower Grove Auxilliary Holiday Luncheons. Tickets are $20 and include attendance prizes and admission to the Holiday Flower and Train Show. Noon. SP Advance reservations required by Mon., Dec. 1. Please call (314) 577-9500.

Wed. to Sun., Dec. 10-14
**Members only: Holiday Sale. Receive 20% off everything in the store. During the sale, regular and senior gift memberships will also be 20% off. (onsite sales only)

Thurs., Dec. 11
Springboard to Learning. Details TBA.

Thurs. & Fri., Dec. 11–12
"Christmas Carols in the Garden." See page 7 for details.

The Garden Gate Shop will be open to 8 p.m. for holiday shopping. All proceeds benefit the Missouri Botanical Garden.

Sat., Dec. 13
**Members only: Holiday Concert with the Gateway Ringers. Join us for a concert of traditional holiday music from around the world performed by this accomplished handbell choir. 1 p.m. RC

Story Time, for children ages four to 10. Children under age four must be accompanied by an adult. 11 a.m. RC.

Sun., Dec. 14
"Chanukah: Festival of Lights" is a traditional Jewish holiday celebration that includes festive music and a menorah-lighting ceremony. Noon to 4 p.m. RC.

Tues., Dec. 16
Join the Tower Grove House Auxiliary on a beautiful, fun-filled evening as we check out the best of holiday light displays by bus. The fun starts with a warm drink and holiday cookies at the Garden, where we'll enjoy the beautiful wreath display. The bus will then depart Ridgway Center and return at 8:30 p.m. Cost per person is $35. Please call (314) 577-9500 to make your reservations by Sat., Dec. 8.

Dec. 19
Gardenland Express Holiday Flower and Train Show and the Garden Gate Shop will stay open until 8 p.m. for extended holiday evening hours.

Fri. & Sat., Dec. 19 & 20
Open House Days at the EarthWays Home, Grand Center. Tour this century-old Victorian home renovated to demonstrate energy-efficient systems, recycled products, and sustainable lifestyle choices. Third Friday and Saturday of each month. Tours begin at 10 a.m., 11 a.m., noon, and 1 p.m. $2 (free for Garden members). 3617 Grandel Square. Call (314) 577-0220. EH.

Thurs., Dec. 25
The Missouri Botanical Garden is closed only one day a year, Christmas Day.

Sat., Dec. 27
"Kwanzaa: Festival of the First Fruits." Kwanzaa is a Swahili term that means "first fruits," and this contemporary African-American holiday is centered around the feast table of the harvest. A Kwanzaa ceremony highlights a day of storytelling, craft and jewelry workshops, and authentic African drumming and musical performances. Noon to 4 p.m. RC.

January

Jan. 12 through Mar. 5
"Upclose and Floral" exhibit by Margaret Ely. 9 to 5 p.m. RC

Jan 12 through Mar. 14
"Plants of the Lewis and Clark Expedition" exhibition includes 20 mounted specimens collected by Fay E. Benton and Steve Schaller, and quotes from the explorers' journals. 9 a.m. to 5 p.m. RC

Jan 31 through Mar. 14
Annual orchid show features hundreds of exotic and fragrant orchids and lush tropical foliage accented by urns, columns, and romantic ruins. Garden admission plus $3 for adults or $2 for seniors 65+. Members and children 12 and under are free.

the key

All events are free with admission or membership unless otherwise noted.

BH = Butterfly House
Faust Park, 15193 Olive
Chesterfield, MO
CA = Cohen Amphitheater
CL = Climatron
EH = EarthWays Home
3617 Grandel Square
Midtown St. Louis, MO
GGS = Garden Gate Shop
JG = Japanese Garden
KC = Kemper Center
MC = Monsanto Center
RC = Ridgway Center
SNR = Shaw Nature Reserve
Hwy. 100 & I-44,
Gray Summit, MO
SP = Spink Pavilion

** denotes a Members-only event.
$ denotes an additional fee.

Hands-on learning activities are offered by volunteers on the weekends. Look for the colorful Volunteer Interpretive Carts on the Garden grounds.

Great Garden Adventures
Take a self-guided "Great Garden Adventure" tour. Ask at the ticket counter about a Fitness Foray, Stroller Strut, Kids' Quest, or Guided Exploration. Wheelchair-friendly route also available.

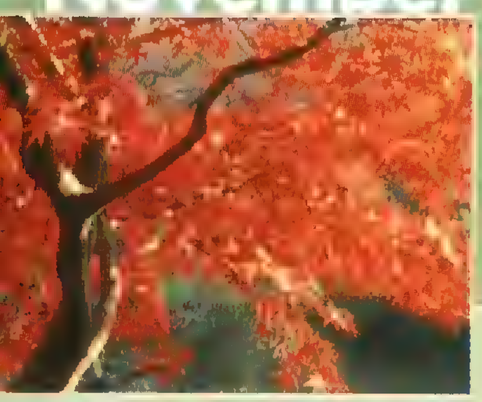
Walking tours led by Garden Docents leave from the ticket counter at 1 p.m. daily throughout the year (except during Japanese Festival and Best of Missouri Market).

Garden walkers' breakfasts
In cooperation with the American Heart Association, the grounds open early every Wednesday and Saturday at 7 a.m. to encourage fitness walking. A light breakfast is available for purchase in the Garden Café.

Tower Grove House,
Garden founder Henry Shaw's 1851 country home is closed for reinterpretation until late 2004.

plants in bloom

November



December

grow, grass, grow

PHOTO BY BETH HANES

Now in his fifth season at the Garden, resident Turf Manager Scott Stelling oversees the Garden's 33 acres of lush green grass, currently ranked by lawn equipment manufacturer Briggs & Stratton as one of the top lawns in the country. In July 2003, Scott was named one of the "Ten Most Dedicated Grounds Managers" by Landscape Management *magazine. "Good lawns don't just happen," he notes. "They require a commitment. It's never too late to improve your lawn."*

One More Chance

by Scott Stelling, *Turf Manager*

Upon reading last issue's "Grow, Grass, Grow" column, I'm sure all diligent lawn caretakers rushed out to aerate and fertilize in September, right? Well, if not, it's not too late to put down a late-fall fertilizer application this November. It's easy to let other projects demand your attention in the fall, but you shouldn't overlook the basics that help prepare your lawn for winter and next spring.

You can use many different fertilizer sources for fall fertilization. I like products that have predominantly soluble Nitrogen. The lawn can take up and use the soluble aspects quickly, but these fertilizers also contain up to 25 percent of their Nitrogen in slow-release form, for a longer lasting effect.

Be careful not to apply fertilizer if a warm/rainy period arrives, as this will bring on growth. If a cold spell happens and leaf tissue turns brown, it then has lost its potential to conduct photosynthesis and store energy, so there is no point in fertilizing. A hard freeze usually causes turf growth to stop, but so long as the plant is green, it is still active and the lawn continues to accumulate carbohydrates during this time when little or no growth occurs. Photosynthesis will continue until snow covers the ground or the ground freezes.

November is also a good time to test your soil for nutrient levels and proper pH. The Garden's Kemper Center offers year-round soil testing with a discount for members. Call (314) 577-9440 for details. Depending on your results, you can add sulfur or lime to the soil right now, or for challenging situations, make sure you visit the Garden's annual Dirt Fest in March and get advice directly from the Kemper Center experts.

Well, with hard work and perseverance, your lawn is back in shape. Timing is everything, so make a plan right now for next year because it's never too late to improve your lawn.

Many of your most common lawn care questions are answered on the Garden's website. Go to www.mobot.org/gardeninghelp and click on "HortLine." If your question is not answered on these pages, please call the Garden's Horticultural Answer Service at (314) 577-5143. Garden staff and Master Gardeners provide personalized answers to your specific phone-in gardening questions, 9 a.m. to 12 noon, Monday through Friday. Various turf plots can be viewed at the Kemper Center For Home Gardening year round.

Japanese maples in autumn

On the Garden staff since 1986, Chip Tynan manages the Garden's Horticulture Answer Service, overseeing a staff of 40 volunteers who field an excess of 20,000 questions annually. He is a well-known local columnist for the St. Louis Post-Dispatch *and regularly teaches adult education courses at the Garden, talks to gardening clubs, and appears on local TV and radio as a gardening expert. Tynan's email is chip.tynan@mobot.org.*

Last Call for Fall

by Chip Tynan, *Answer Service Manager*

Autumn color doesn't happen all at once. Weather drives both the timing and intensity of the hues, and no two years are ever alike. Warm, cloudy falls rarely produce the best colors. A hard early freeze can bring the season to an abrupt halt. Motorists touring down Missouri highways are often unaware that some of the first signs of red and yellow autumnal color come from poison ivy vines clinging high up the sunny side of forest trees. Sumacs along roadways, and sassafras and Virginia creeper in woodlands add their shades of reds, purples, and orange to the early mix. Dogwoods along the forest edge go through a lengthy coloring process starting early with dull purple and ending up late with vibrant reds and purples.

Much is made of the "peak" of fall color, but Missouri forests actually experience two such peaks. By mid to late October red and sugar maples, various hickories, both sweet and black gums, and other species join the fray of the classic Eastern decidous forest peak fall season. As their colors gradually fade, Missouri forests pause briefly before a second peak of subtler tones as our many species of native oaks reach a final climax, usually in early to mid-November.

Landscape gardeners can push the envelope even a little further beyond with a final flourish, a "last call" of autumn. The Japanese Garden at the Missouri Botanical Garden is the home of our region's largest and finest public collection of Japanese maple cultivars. Barring severe frost in the rare year, their exceptionally long fall color season often peaks in deep red and some orange tones in mid to late November, well after the leaves of most other species have dulled and begun to fall. A late autumn visit to *Seiwa-en* is sure to please the eye of all autumn color

Learn More

The Adult Education division of the Garden offers classes to members at a discount, with classes on all kinds of special gardens offered throughout the year. On the website, go to: www.mobot.org/gardeninghelp to view current course offerings.

the website...

Plant Finder:
Cultural information on over 2,000 plants growing in the Kemper display gardens.

Find-A-Plant:
Search the living plant database to find what plants are growing in the Garden and where.

Gardening Help:
Information on over 300 gardening topics, including all Hortline messages.

Integrated Pest Management:
Diagnostic and control measures for nearly 100 of the most common insect, disease, and environmental problems encountered in Missouri.

Plants of Merit:
Plants selected by local horticulturalists with outstanding qualities for dependable performance in the region.

Plants in Bloom:
Updated weekly at the Garden, along with current photos, updated biweekly.

PHOTO BY ELIZABETH MCNULTY

Steve Wolff

Steve Wolff is a senior horticulturist in charge of growing bedding plants, holiday show items, chrysanthemums, and water lilies. Steve started working at the Garden when he was a senior in high school and never quit, even when he was working on his horticulture degree at Meramec. In 35 years, he's worked almost everywhere on the grounds, but has been indoors since 1974. "Growing crops inside is challenging. You must conform to an artificial schedule in order to have plants ready when you want them." What he's learned about dealing with plants all these many years? "There's always a new problem to adapt to. You might think 'Finally, I figured it out. I'll do it right next year.' But then conditions change."

Festive Floriculture

Fall is here, and that means Garden senior horticulturist Steve Wolff is nearing the homestretch of a very demanding growing season. As the person responsible for growing the Garden's chrysanthemums and holiday show plants, Wolff is busy checking light quality, watering systems, and all the other "mechanicals" in the Garden's greenhouse compound. "It couldn't be done if we didn't have such a great team," says Steve, who works closely with six other indoor horticulturists and a group of 30 volunteers.

In preparation for the holiday show, Wolff routinely deals with the challenge of controlling bloom time for poinsettias, Christmas cactus, and kalanchoes. "In order to bloom on time, all these plants require special attention and black-clothing," he says, referring to the floriculturists' trick of simulating more hours of darkness by covering plants with light-inhibiting cloth. But the biggest challenge, according to Wolff, has been the mums.

"We lost our grower, and I had to come up with a mobile method to grow them in a hurry." He started them indoors on wire frames in January, lit them at night until June, moved the frames, complete with drip irrigation system, outside to toughen up, sheared them back, moved inside in August, and then "black-clothed" them until they started to show buds. Steve rattles this off as if it's eminent common sense, but then laughs, "Honestly, it took *years* to master that situation."

But master it he did over the course of 35 years at the Garden, and today Wolff shares his hard-won expertise on two seasonal favorites: chrysanthemums (following) and poinsettias (page 22).

Queen of Autumn: Chrysanthemums

The so-called "Queen of Autumn," chrysanthemums thrive in October and November in St. Louis. Visit the Garden and stroll the chrysanthemum beds in the Swift Family Garden outside the Linnean House and admire Steve's handiwork. Chrysanthemums occur in almost all colors—white, lavender, and a variety of pinks, but "people tend to like the 'sunset' colors—the yellows, reds, bronzes," says Wolff. "Probably because of the season."

The chrysanthemum (*Chrysanthemum* x *grandiflora*) was first cultivated in China perhaps up to 2,000 years ago. By the 17th century, hundreds of named cultivars were recorded, and soon after, it became the national flower of Japan, but it wasn't until the early 1800s that many cultivars were introduced to Europe. In America, the chrysanthemum has been hybridized extensively, resulting in the popular and reliable garden cultivars.

Chrysanthemums are classified according to shape and arrangement of petals. The types most often grown in the Garden are pompon, anemone, spoon, daisy, and decorative. These small-flowered varieties are known as "hardy mums." Larger flowered varieties are grown primarily in greenhouses for the florist trade, and while they may survive St. Louis winters, will probably not bloom again. So if you succumb to an impulse buy at the grocery store, here are Steve Wolff's steps for home gardening with chrysanthemums.

Pick a good one. Make sure you select a hardy variety. "Many names of good new hardy mums are women's first names, such as 'Raquelle' or 'Emily,' " says Steve. "Hardy mums are shorter and more compact than florist mums and will bloom for about three weeks." It's a good idea to visit the Kemper Center for Home Gardening where many hardy mum cultivars are displayed in hanging baskets to see how the plants perform in St. Louis and with different sun exposures.

Plant. Many people purchase mums in fall for container display. But in order to have time to root out, mums must be planted in the ground no later than October. If you love the idea of mums in your garden, but purchased them too late, move the containers inside during winter, then plant out in spring. Chrysanthemums will thrive in a full sun location, but must have good drainage as they can't abide wet feet.

Pinch and feed. Once mums are in the ground and growing, pinch 1½ inch of terminal growth off each tip down to a node to keep the plant short and compact. Practice pinching until July 15, then stop so that the plant can bud up for fall. If you haven't kept up your pinching, you can always get out the grass shears and cut off the bushes eight inches from the ground. It will look bad for a while, but will eventually branch out again and then bloom.

Apply a slow-release fertilizer, following label instructions, on June 1. Don't allow to dry out, but be careful not to overwater.

With regular care, chrysanthemums can bring perennial joy to your garden.

Why leaves turn colors

Changing autumnal leaf colors are the result of a complex series of interactions involving daylight, moisture, temperature, location, and pigments. Ideal conditions for fall color include cool, but not freezing temperatures, mild late-season drought, and sunny days.

Leaves are green because of the formation of *chlorophyll*, a pigment that enables the production of food for the plant via the process of photosynthesis. Yellow and orange pigments (called *carotenoids*) are also present in the leaves, but masked during the growing season by the greater amounts of green pigment. Dropping temperatures and shorter days result in a rapid breakdown of chlorophyll, revealing the brilliant yellows and oranges seen in Missouri hardwoods like hickories and birches.

While carotenoids are always present, other pigments don't develop until the onset of lower temperatures. *Anthocyanins* develop late in summer and result in brilliant red and purple leaves (if the tree's sap is acidic or alkaline, respectively). These pigments are most frequently seen in persimmons, dogwoods, maples, sumacs, sweetgums, and ashes.

As the Leaves Turn
a guide to the historic and colorful trees of the Missouri Botanical Garden and Tower Grove Park
Missouri Botanical Garden
Tower Grove Park

For a tour of historic and colorful trees at the Garden and Tower Grove Park, pick up a copy of "As the Leaves Turn," a free guide map now available at the ticket counter.

Pick up your free guide to Shaw's historic and colorful trees at the ticket counter.

The "Very Beautiful" Poinsettia

Native to Mexico, poinsettias were called "Cuetlaxocitle" by the Aztecs and used to make a reddish dye. In nature, they are perennial flowering shrubs, growing up to 10 feet tall. The showy colored parts of the plant are not flowers, but actually colored "bracts," a type of modified leaf. Poinsettias are beloved for their brilliant bracts and the Latin name reflects this admiration: *Euphorbia pulcherrima*, or "very beautiful Euphorbia." The common name Poinsettia honors Joel Roberts Poinsett, the first U.S. Ambassador to Mexico, who imported the plant to his greenhouses in South Carolina in the 1820s. Contrary to popular myth, the poinsettia is not poisonous, although the milky sap may irritate the skin of latex-sensitive individuals.

Today, there are more than one hundred varieties available commercially, most of which are grown in California. Although 75 percent of Americans still prefer red poinsettias, there is now an abundance of choice—whites, creams, pinks, purples, and many variegated options. About $220 million worth of poinsettias are sold during the holiday season, making them the best selling potted plant in the United States. In fact, December 12 has been named National Poinsettia Day.

Steve Wolff knows a little something about poinsettias…he's been growing them since the early 1970s for the Garden's annual holiday flower show. "We start from cuttings because there are so many new cultivars every year. It didn't make sense to try to keep stock plants." They begin in late May, early by commercial standards, but necessary to achieve the extra height desired for larger specimens in the holiday show. Because they grow so many poinsettias (12 benches!), they do not have facilities to "black-cloth" them all. Instead they grow primarily "early response" culitivars which bloom naturally by Thanksgiving, and presto, fabulous displays at this year's Gardenland Express Holiday Train and Flower Show. Here is Steve's advice for the many millions of Americans who buy poinsettias each year.

Select a healthy, fresh plant. A fresh poinsettia is one on which little or no yellow pollen is showing on the flower clusters in the center of the bracts. "Make sure it doesn't have any broken branches, that it has good bract coloration, sturdy size and shape, and that it has been well watered," says Wolff.

Protect from cold. Poinsettias cannot stand cold; even a few minutes of exposure to low temperatures can cause your lovely new plant to unceremoniously dump its bracts within a few days. "Your plant needs to be wrapped before taking it to the car," says Steve. Once home, keep the poinsettia away from cold windows and drafts of any kind. The ideal poinsettia situation is warm and sunny by day, dark and cooler at night. Water when dry, and don't worry about fertilizer if you just plan on keeping the plant for the holiday season.

Maintaining a poinsettia post-bloom is difficult and getting it to re-flower is practically impossible, since they are a "photoperiodic" bloomer, requiring total darkness for precise amounts of time before they initiate flowers. "My wife keeps one, but it never blooms," says Wolff. "Even small amounts of artificial light, a street lamp for example, can be enough to interfere with flowering." If you're the type of houseplant enthusiast who really likes a challenge, however, stop by the Kemper Center for Home Gardening to get full details on caring for a poinsettia throughout the year.

plant of merit

Ilex verticilliata 'Red Sprite'

Winterberry

This deciduous winterberry cultivar is a large-berried, slow-growing, dwarf shrub 2–3 feet tall. Glossy medium green leaves drop early and whitish flowers are inconspicuous. However, the female shrub produces profuse red berries in fall and winter, often persisting to early spring unless consumed by local bird populations. A male pollinator is required for the female to produce the attractive berries.

Plants of Merit™ are selected by Garden staff for outstanding qualities and dependable performance in the St. Louis area. View all current PMs on the website: www.mobot.org/gardeninghelp.

the Bulletin celebrates 90 years

Following Henry Shaw's death in 1889, the first Garden director William Trelease began an Annual Report to the trustees. The first bound volume, published in 1890, included a biographical sketch of Shaw, a reprint of his will, information about the new Henry Shaw School of Botany at Washington University, the director's report, a reprint of the first annual flower sermon, proceedings of the first annual banquet, and a series of maps showing plans for future gardens.

George Moore became the second director in Garden history in 1912. By then, the Annual Report had practically become a scientific journal. It contained the strange marriage of the annual director's report to the trustees with seven highly technical articles on issues related to botanical science. It was decided that two publications were in order, and in January 1913, the first *Missouri Botanical Garden Bulletin* debuted. The first issue laid out the plan for the publication:

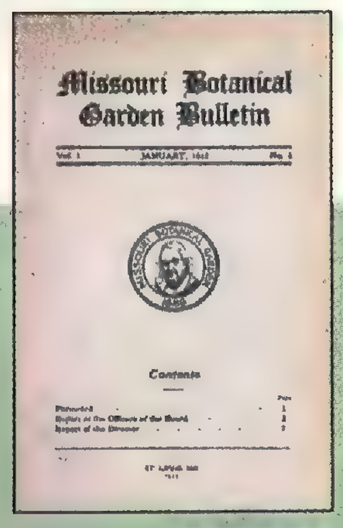
> [The Bulletin] is designed solely as a means of communication between the Garden and the public, and will be devoted almost exclusively to informing the people of St. Louis and vicinity what can be seen and learned at the Missouri Botanical Garden. […] The Bulletin is in no sense a scientific publication, and will not replace the volume hitherto known as the Annual Report, which in the future will be devoted exclusively to the results of scientific research…

In 1914, the Annual Report was reborn as *Annals of the Missouri Botanical Garden*, a quarterly scientific journal still published today by the MBG Press.

For many years the *Bulletin* was a small gray booklet, only eight to twelve pages per issue, available to subscribers for one dollar a year (the price finally started creeping up in the 1940s). Early *Bulletins* included articles on new attractions and shows at the Garden—"New Plant Range" and "New Easter Bulb Display" (Feb. 1913)—as well as behind-the-scenes articles on plant research in the herbarium and profiles of staff. Home gardening articles were featured in every issue, such as "Hints on Lawn Making in St. Louis" (March 1913) and "Planting and Care of Shade Trees in St. Louis" (April 1913). Through the years, a variety of editors and writers have contributed to the *Bulletin*, producing some truly time-tested classics, such as Edgar Anderson's "A Nice Quiet Evening with a Potato" and Mary Gamble's "Botany of a Fruitcake" (see page 24).

The *Bulletin* was published monthly (except July/August) until the late 1950s, when it went to the current bimonthly schedule. The first *Bulletin* in the current size appeared in 1972, and photographic covers began appearing in 1985. In 1990, the *Bulletin* ceased to be a subscription magazine, and became a publication for Garden members only. And in 2002, the *Bulletin* appeared for the first time in full color.
Happy 90th Birthday, Bulletin*!*

Below from left to right: January 1913, the first Bulletin. *January 1945, the cover gets some color. Jan.-Feb. 1969, the cover is printed on colored stock. July 1972, the* Bulletin *grows to the current size, "a new format which allows greater flexibility." Sep.-Oct. 1985, a return to cover photos, but not yet in color. Mar.-Apr. 2002, the* Bulletin *is published in full color.*



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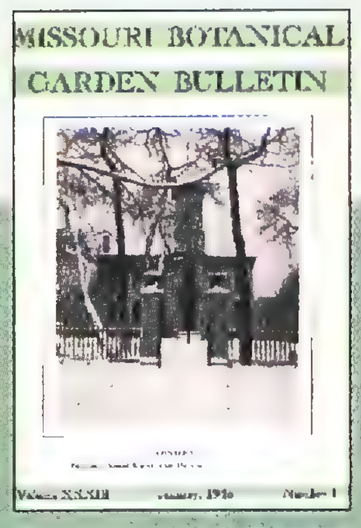

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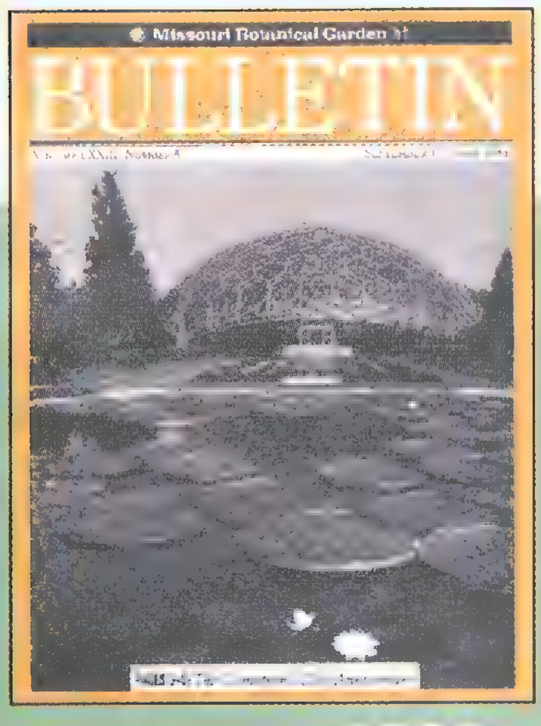


1985

COURTESY MBG ARCHIVES

In honor of the Bulletin's *90th anniversary and the holiday season, we are excerpting below a classic article that first appeared in the November-December* Bulletin *issue 1969. In it, the late Mary A. Gamble examines the botanical origins of ingredients in two fruitcake recipes included in the original article. If you would like a copy of these recipes, please email Elizabeth.McNulty@mobot.org.*

Vanilla (*Vanilla planifolia*) Nutmeg (*Myristica fragrans*)

botany of a fruitcake

by the late Mary A. Gamble

The botany of a fruitcake is as rich, complex, and intriguing as its taste. The latter can be achieved only by the masterful blending of the odors, flavors, and textures of a wide and extravagant assemblage of "botanicals" whose habitats range the world, from the tropical Spice Islands to the temperate Corn Belt.

Most exotic of the fruitcake botanicals is the VANILLA bean, fruit of *Vanilla planifolia*, a vine orchid (Orchidaceae) indigenous to southwestern Mexico. Hernando Cortez tasted the warmly pungent flavor of vanilla in 1560 at Montezuma's court; in Spain it was an instant hit. ...today the bean is produced in Madagascar, Tahiti, Java, etc. The long green bean acquires its chocolate brown color and spicy fragrance in a six-week curing process of sweating and drying.

The SUGAR was milled from sugar cane (*Saccharum officinarum*) grown on the coastal plains of Hawaii's four largest islands.... Sugar cane is a giant-stemmed perennial grass that grows from 8 to 24 feet high. One hundred pounds of milled cane produces 12 pounds of raw sugar from which 11 pounds of pure sugar are obtained....Capt. James Cook saw sugar cane growing wild in Hawaii in 1778; historians believe it reached the Islands from the remote South Pacific about the year 500 A.D.

The fine white all-purpose FLOUR used in the cakes is made of common or bread wheat (*Triticum aestivum*), an annual or biennial grass and most important of the five wheat species recognized by Linnaeus. Hard red spring, hard red winter (these may be the same varieties planted according to locale), and hard white wheats, individually or blended, are milled into bread flour; sometimes just a "touch" of soft red winter wheat is added to achieve the best all-purpose flour. These blends, with exact varieties and percentages, are trade secrets.... Wheat, possibly the first grain domesticated by man, was initially cultivated in the Mediterranean area and came to the New World with the Spaniards in 1493.

The ground CINNAMON in the "black" cake is the Saigon variety, called "Cassia" in the spice trade and just plain "cinnamon" generally. It is made from the dried bark of the evergreen cassiabark-tree (*Cinnamomum cassia*), native to China and cultivated in Indo-China and Indonesia.[...] Arabian traders brought cinnamon along their secret caravan routes to the Romans who dedicated it to their god of commerce.

The 12 to 20 foot evergreen clove tree (*Eugenia caryophyllus*) produces in its dried, unopened flower buds the spice we know as CLOVES. A 17th century European, living in the tree's native Moluccas or Spice Islands, described it as "the most beautiful, elegant and precious of all known trees."... Cloves reached Europe, via India, late in the 2nd century, but remained so expensive for centuries that only the very rich could afford them.

Both NUTMEG and MACE are produced from the fruit of the tropical nutmeg tree (*Myristica fragrans*), the only example of two spices occurring naturally on the same fruit. The nutmeg is the dried seed found inside the kernel; mace is the skin that covers the seed. The nutmeg, native to the Spice Islands, is a tall, bushy evergreen of the Myristicaceae family.

ALLSPICE is the dried, green, pea-sized fruit of a beautiful 25 to 40 foot tropical evergreen tree (*Pimenta dioica*), native to the western hemisphere and member of the Myrtaceae family. It is the only major spice grown on this side of the world, a major source being Jamaica. The berries, picked while green, are sun-dried to a dark, reddish brown. Their aroma and flavor are like those of cinnamon, cloves, and nutmeg combined, hence the name allspice.

The SHERRY used in the golden fruitcake is made of fully ripened California grapes, grown in one of the state's vineyard areas where soil and climate are much like those of European districts where *Vitis vinifera* (Vitaceae) has thrived for millennia. The European origin grapes are grafted on native American root stock because it is resistant to Phylloxera, a plant louse which attacks leaves and roots of grape vines. ... The name sherry is the Anglicizing of Jerez, sherry-producing district of Spain. ...

All of the RAISINS in the U.S. are produced from grapes grown in the San Joaquin Valley of California where the long, hot summers provide the exact climate needed to turn a grape into a raisin through drying it in the sun. Ninety-five percent of the raisins are now made from one variety of grapes, the Thompson Seedless, named for its grower....The fully ripened hand-picked grapes are placed on paper trays between the vineyard rows to dry for 2 to 4 weeks, being turned once, and acquiring the characteristic brownish-purple raisin color. ...

Pineapple (*Ananas comosus*)

Cherry (*Prunus cerasus*)

Mary A. Gamble

A former PR director for Scruggs, Vandervoort, and Barney, Mary Gamble was a respected journalist when she got involved in local plant societies in the 1960s. "Mary loved the Garden," says friend LaVerne Jaudes. "She was a founding member of the Boxwood Society. In fact, there's a boxwood named for her, *Buxus sempervirens* 'Mary Gamble.' " When she passed away in 2001, Mary remembered the Garden in her will and left funds for both the Anderson Boxwood Garden and the herb garden behind Tower Grove House. Her generous gift creates a legacy in her honor at the Garden.

The CURRANT raisin is produced from the Zante Currant grape, approximately ¼ the size of a Thompson Seedless. Raisins have been relished for thousands of years. Nero served them at his banquets; Cleopatra fed them to Mark Antony.

The slivered ALMONDS in the recipes were grown in California, now the world's largest almond source. In the Almond Belt more than 165,000 acres are planted to some seven major varieties... The almond tree (*Prunus amygdalus*) is, like the cherry, one of the stone fruits, a member of the Rosaceae family. Probably native to western Asia, it was brought to California by the Franciscan fathers. It resembles the peach tree but is larger, longer-lived, and even more beautiful in bloom.

The BRAZIL NUT is the triangular, smoothly edible seed of a large South American tree (*Bertholletia excelsa*). The hard-shelled, globular fruit, from 4 to 6 inches in diameter, contains from 8 to 24 seeds arranged in sections like an orange. The tree (*Lecythidaceae family*) grows in Brazil, Venezuela, and the Guiana region.

The PECANS most used in fruitcakes are the small, rich, sweetflavored nuts from native seedlings, commercially described as "medium halves." The pecan (*Carya pecan*) is a member of the walnut (Juglandaceae) family, indigenous to the lower Mississippi Valley, and grown through the southern tier of states from North Carolina to New Mexico.

COCONUT is the fruit of the monotypic coconut palm (*Cocos nucifera*), probably of Asiatic or Polynesian origin and dispersed throughout the tropics by ocean currents. This romantic and lofty tree (Palmae family) is grown only from seeds; it may, from maturity, yield 75 or more nuts annually.

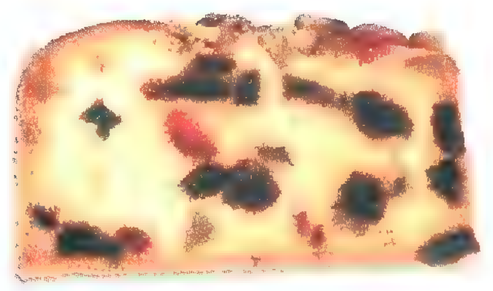
The red and green dyed candied CHERRIES in the cakes are sour cherries (*Prunus cerasus*), the most important commercial species in the U.S.... The sour cherry is believed native to the Caspian and eastern European areas. Its successful culture depends more upon climate than soil, the flower buds being susceptible to cold.

The PINEAPPLE (*Ananas comosus*) in the recipe is the smooth, Cayenne variety most used for canning. The plant is believed native to Central and South America. The Cayenne reached Hawaii from French Guiana via England in the early 20th century. Pineapple, a bromeliad (Bromeliaceae), needs little water; in Hawaii it is grown in semiarid, otherwise unproductive areas.

The candied peels of three members of the genus Citrus (family Rutaceae) contribute their acid-sweet flavor to the fruitcakes. They are the sour ORANGE (*C. aurantium*), the LEMON (*C. limon*), and CITRON (*C. medica*)... All are fruits of the small to medium-sized evergreen citrus trees native to tropical and subtropical Asia. The Crusaders brought it to Europe from Palestine; it came to the New World from Spain. The orange traveled with Arab traders from Asia to Africa to Spain; the Spaniards brought it to Florida probably about 1565.

The BOURBON whiskey which is used both to help flavor and to cure the black fruitcake is made from yellow Dent Corn (*Zea mays* var. *indurata*), a hybrid type. It is a descendant of the annual maize or Indian corn (Gramineae family) long believed native to the Americas but now described as of "undetermined origin." The Federal Alcohol Administration defines bourbon as whiskey which has been distilled at not exceeding 160 proof from a fermented mash of not less than 51% corn grain, and which has been stored for at least two years in charred new white oak containers.

During the weeks—or months—that the black fruitcake cures in its bourbon-saturated cloth, and the golden fruitcake in its brandy doused wrapping, it is necessary from time to time to replenish the liquids to avoid having the cloths dry out. This is a pleasant task, affording an appropriate occasion to reflect that the making of a fruitcake is both a botanical adventure and a culinary celebration of the boundless beneficence of the plant world.



peru

Peru facts

Location:
west coast of South America, between Ecuador and Chile

Geographic Area:
501 million sq. mi.
(just slightly smaller than Alaska)

Capital: Lima

Population: 28.4 million

People: 54% Indian, 32% Mestizo, 12% Spanish, 2% Black, Asian

Languages: Spanish, Quechua, Aymara

Money: Nuevo sol
[3.5 PEN = 1 USD]

Politics: Ancient Incan empire captured by the Spanish conquistadores in 1533. Declared independence in 1821 and became a democracy. Alejandro Toledo was elected president in spring 2001.

Exports: fishmeal, gold, copper, zinc. petroleum products, lead, coffee, sugar, cotton

From top: (1) the Huancabamba canyon in the central forest of Peru. (2) A school in one of Peru's protected areas. (3) Gloxinia sylvatica, *discovered by Garden researchers and endemic to Peru. (4) With the help of the Christiensen Fund, the Garden's CCSD trains Peruvian students in botany, ecology, and conservation.*

Land of the Incas

Today, in every country on Earth, species are becoming extinct at an unprecedented rate. Organisms are being lost forever, before we can determine their uses or their role in the balance of nature. Driven by this urgent imperative, Missouri Botanical Garden scientists conduct the most active and geographically widespread botanical research program in the world. Their work forms the base on which the pyramid of plant science stands.

The Taylor Fund for Ecological Research—established by the gift of Jack Taylor, founder of Enterprise Rent-A-Car—allows the Garden to continue pursuit of knowledge of plant diversity in countries all over the world, and to work with these countries to conserve and develop plant resources sustainably before it's too late.

Situated on the Pacific Coast of South America, and home to some of the most beautiful ranges of the Andes Mountains, Peru has been the seat of prominent civilizations since prehistoric antiquity. Visitors marvel over the enigmatic pre-Columbian Nazca Lines, giant images etched into the desert sands visible only from the air. Incan history is all around, from the ancient capital of Cuzco, to the lost city of Machu Picchu, tucked high in the mountains and "undiscovered" until the 20th century. Colonial architecture bears evidence of the Spanish conquistadors, but in today's Peru,

the mountains are still home to millions of Indians who still speak the ancient language of Quechua and maintain a traditional lifestyle.

Part Andes, part Amazon Basin, Peru is also one of the world's top-ten biodiversity "hot spots." The flora of Peru features a number of hardy and unique plants, but for nearly a century, a steady process of deforestation has depleted Peru's natural habitats, and only about 2.8 percent of the land, in a nation with a population of over 27 million, is arable.

The Garden has had a presence in Peru for over 27 years, and today there are over 20 Garden-funded researchers working there. Like the other Andean nations, Peru, which is slightly smaller than the state of Alaska, is an extremely fertile site for botanical exploration. Thus far, approximately 18,000 higher plant species have been recorded from Peru—about 2,000 more than found in the United States and Canada. Several important areas of the country remain to be explored.

The Taylor Fund for Ecological Research has already had an impact. "Previously we worked only in the lowlands," says Rodolfo Vásquez, assistant curator and head of the Garden's program in Peru, speaking through an interpreter. "With Taylor funds, we are now able to work at mid-level and higher elevations, such as the Selva Central (central forest) and in South Peru in the Cuzco-Machu Picchu area."

Vásquez began working with the late and much-admired Garden researcher Al Gentry in the 1980s when he was just an undergraduate student. Growing up in rural Cajamarca in a farming family, Vásquez gravitated toward the study of agriculture, but a dawning awareness of the ecological challenges facing his country, led him to specialize in forestry.

"The government establishes reserves. In fact, almost 15 percent of all land is now government-protected. But the challenges of conservation, research, and education are met by nongovernmental agencies."

"The Garden's program in Peru is well established now, after two decades, but the need is great," says Vásquez. Future plans include a complete flora of the protected areas of Peru and a cooperative effort with other non-governmental organizations to establish a UN-chartered "biosphere" in the central forest.

CCSD

Since 2001, the Garden's Center for Conservation and Sustainable Development (CCSD) has become an integral part of the Garden's program in Peru. The CCSD collaborates with a number of partners, including the major Peruvian universities and other local conservation organizations, and has been instrumental in developing a training program with the Yanesha indigenous communities in central Peru.

The ancestral homelands of the Yanesha people lie in the central Peruvian jungles, known as La Selva Central, at the headwaters of the Amazon basin close to the eastern foothills of the Andes. Over the last 20 years, the Yanesha culture and economy have faced extreme external pressure from logging, highway construction, military and druglord activity, and practices that are foreign to the group, such as cattle-raising and non-traditional agricultural. These changes have had a profound negative impact, especially on Yanesha youth.

"The Yanesha are especially pivotal because their land lies between two large reserves," says Olga Martha Montiel, director of the CCSD. "The training will help the Yanesha to implement sustainable, productive activities that use natural elements — native plants, animals, and landscapes — in ways that recover and sustain a harmonious relationship with the environment."

Traditional Yanesha culture and beliefs are based strongly on natural resources, and older members of the communities have retained the knowledge of how best to manage their biological heritage. The CCSD program will expand the capacity of these ten indigenous communities to conserve and sustainably manage their forest resources, revitalizing traditional knowledge and practices and enhancing them with scientific understanding.

Established at the Garden in spring 2001, the CCSD works through the Garden's extensive global reach to advance international conservation and sustainable development throughout the world. The Center was founded with the help of a $5 million pledge from the Bellwether Foundation of St. Louis and $1.1 million from four other foundations: the John D. and Catherine T. MacArthur Foundation, The David and Lucile Packard Foundation, the William and Flora Hewlett Foundation and The Summit Foundation.

PHOTO BY DIANE WILSON

Olga Martha Montiel to head CCSD

Olga Martha Montiel, a native of Nicaragua, has been appointed Director of the Center for Conservation and Sustainable Development (CCSD). Montiel, previously the Interim Director of the CCSD and Assistant to the Director of the Missouri Botanical Garden, was chosen for the position after an extensive year-long international search.

Montiel joined the Garden's staff as Assistant to Dr. Peter Raven in 1991 and has had long-term involvement in the Garden's multiple research activities in Latin America. She is an editor of the Flora de Nicaragua, *the first complete flora of a Latin American country published in Spanish, and is currently directing the Garden's conservation program in Nicaragua and is preparing a conservation analysis of all Nicaraguan plants with the aim of developing practical conservation strategies within that country—a project that epitomizes the goals of the Center.*

"I have been working with Olga Martha for many years to develop conservation efforts in Latin America," says Dr. Peter H. Raven, director of the Garden. "Under Olga Martha's expert guidance, CCSD will continue to promote development which meets the needs of the present world community without compromising the ability of future generations to meet their own needs."

"It will be a great privilege to serve as CCSD's director," says Montiel. "We are dedicated to protecting natural resources and improving living standards and ecological systems for all mankind."

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July–August 2003

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the shop at the Garden

4344 Shaw Blvd. • (314) 577-5137
Open daily 9 a.m. to 5:30 p.m.
All proceeds benefit the Garden.

Special extended holiday hours:
Open till 8 p.m. on Nov. 28,
Dec. 4–5, 11–12, and 19

Gifts of Glass

The vivid beauty of nature is reflected in this beautiful glass fountain. The Garden Gate Shop has a wonderful array of skillfully hand-crafted and richly-colored glass items this holiday season, including bowls, plates, perfume bottles, bird feeders, and candle holders—perfect for your holiday table and for everyone on your gift list.

Special offers and events!

November 1
Wizards Weekend: costume contest, free Jelly Belly™ samples, Children's story time at 1 p.m.

SALE **November 1–2**
Members receive an additional 10 % off all children's toys and books

SALE **November 5–9**
Members sale: members receive 20% off everything in the store

November 8
Children's story time, 11 p.m.

Outdoor St. Louis:
Talks and book signings with George Matthews and Sandra Marshall, authors of *St. Louis Olympics*; Brett Dufur, author of *The Complete Katy Trail Guidebook, The Katy Trail Nature Guide,* and *All New Show Me Mountain Biking, the Complete Bike's Guide to Missouri;* Margo Carroll author of *Cycling St. Louis; and* Al Montesi, author of a series of books in the *Images of America Series*. Come and learn more about the history of Soulard, Lafayette Square, the Central West End, North St. Louis, Downtown St. Louis, and St. Louis' Union Station. 1 to 3 p.m.

Artist Janet Mason will have a painting demonstration in Grigg Lobby, 1 to 4 p.m.

November 13
Jack Jennings will sign his book *Seasons* and the MBG 2004 calendar, 1 to 3 p.m.

November 14–16
Del Sol jewelry trunk show
10 a.m. to 5 p.m.

November 25
Jack Jennings will sign his book *Seasons* and the MBG 2004 calendar,
11 a.m. to 2 p.m.

November 28
Holiday shopping.
(shop open until 8 p.m.)

November 28–30
Silver Cat jewelry trunk show.
10 a.m. to 5 p.m.

December 3
Stephanie Greenberg trunk show, 5 to 8 p.m.

December 4–5
Carols in the Garden
(shop open until 8 p.m.)

December 6
Children's story time. Sarah Krech will read *The Little Engine That Could,*
11 a.m. and 2 p.m.

SALE **December 10–14**
Members sale: members receive 20% off everything in the store

December 11–12
Carols in the Garden
(shop open until 8 p.m.)

December 13
Children's story time, 11 a.m.

December 13–14
Shelly Solomon jewelry trunk show, 10 a.m. to 5 p.m.

December 19
Holiday shopping.
(shop open until 8 p.m.)

December 24
Shop will close at 4 p.m.

December 31
Shop will close at 4 p.m.

Food Tastings
From 1 to 4 p.m. on
November 5 and 8
Dec. 3, 10, 17, 24, and 31

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members' entry court

Bricks donated to the Members' Entry Court at the William T. Kemper Center for Home Gardening from August 1 through September 1, 2003.

bronze signature bricks

John L. Gaal / Mary Jane Gaal
Margaret S. Gaal

Jane Moerschel
Rollin J. Moerschel

Edward R. Samuels
The Children and Grandchildren
of Edward R. Samuels

engraved clay bricks

Tony and Helen Ambrose
Joe, Marcia, Joe, Chris, and
Colleen Ambrose
Ann Pickett

Bette A. Arado
Anonymous

Carolyn A. Spoeneman Argento
Marie A. Spoeneman

Paul and Judi Dobberstein
Charles Shepard

Laura Gibson Duke
Rosalie and Harold Duke

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Mr. and Mrs. Anton F. Eisel

Dominic S. Francisco, M.D.
The Ladies of the Club

David and Linda Fuist
Fred and Marsha Lang

Virginia Gorla
Sharon Halm

John Govreau
Don Govreau
Pat Stiffler

Dorothy and Dane Gray
Gene and Donna Miller

Martha and Max Gruner
Gayle and Kim Gruner
Pat Wilson

Pat and Phillip Henderson
Mr. and Mrs. Phillip Henderson

Carl and Charlotte Hohenberger
Carol Hohenberger

Carl Hohenberger, Jr.
Carol Hohenberger

Brent Hyde, The Captain
Ed and Marcie Wanner and Family

Dr. Ralph Kinsella, Jr.
Dr. James Criscione and
Ms. Janelle Evans

Dawn Lewis Laks
Frank Laks

Alfred J. Lord & Family
Thelma Lord

Helen Corliss Love
Susan and Howard Elliott

Loftin Mann
Kathy Boles
Ruth Connors
Barb Ernst
Nancy Fiegenbaum
Karen Kretchmar
Kathy Menees
Renee Novack
Martha Nistler
Martha Rumora
Fran Swigunski
Bev Uihlein

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Joan Matava

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Susan and Howard Elliott

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David O'Brien

Ilene Vesper Osherow
Aileen, Benita, Beverly, Bonnie, Edie,
Elaine, Estelle, Lenore, Marilyn,
Marlene, Roxann, and Saline

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Phyllis Friedman
Elisa, Ken, Harlan, and Joel Kadish

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Rich "Magoo" and Nancy Wallace
Nancy Wallace

Patricia A. Whitney
Friends and Family of
Patricia A. Whitney

Sue, Shirley and Nancy Wolverson
Sue Wolverson

Wizard Weekend see page 6

contact information

Events hotline:	(314) 577-9400
Toll free 1-800-642-8842	
Garden Café:	(314) 577-5196
Daily, 9 a.m. to 5 p.m. (Wed. & Sat. from 7 a.m.)	
Garden Gate Shop:	(314) 577-5137
Daily, 9 a.m. to 5:30 p.m.	
Horticulture Answer Service:	(314) 577-5143
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Hours
The Garden is open every day except Christmas, 9 a.m. to 5 p.m. (and Wednesday evenings in summer 2003). Parking is free.

Admission
- Free for members
- General admission is $7
  $3 for St. Louis City/County residents.
- Senior admission (65+) is $5
  $1.50 for St. Louis City/County residents.
- Children age 12 and under—free.
- Admission free to St. Louis City/County residents until noon every Wednesday and Saturday throughout the year, (except Japanese Festival and Best of Missouri Market).
- Special events may require an additional fee.

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